The psychological adaptation of CF augmentees: Effects of personality, situational appraisals, social support, and prior stressors on operational readiness

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Abstract

This research investigates the influence of individual differences in personality, positive and negative situational appraisals concerning an upcoming deployment, prior military stressors, and social support on self-reported symptoms, commitment to the role of peacekeeper, and commitment to the CF, three variables assumed to be indices of operational readiness. This study also represents the first phase of a program of longitudinal research, designed to assess the effects of predeployment factors and deployment events on deployment and post-deployment psychological adaptation.532 Canadian Forces personnel training as augmentees for a peace support mission participated in this research. One-way ANOVAs showed that mean levels tended to be consistent across demographic groups. Hierarchical regressions were used to assess applicability of social cognitive theories of adaptation to the realm of operational readiness for peace support operations. Specifically, we tested the primacy of individual differences in personality and situational appraisals, and which variables within these groups were uniquely associated with each indicator of operational readiness, after controlling for the effects of prior stressors and social support. Results confirmed the importance of individual differences and situational appraisals in that both consistently predicted each of the three indicators of operational readiness. Social support and prior stressors were less consistent predictors of operational readiness to deploy. These results are discussed in terms of the unique contributions of this research to a more complete understanding of factors affecting psychological adaptation across the deployment cycle.

Résumé

Cette recherche porte sur l'influence des différences individuelles au niveau de la personnalité, les évaluations positives et négatives associées au déploiement imminent, les facteurs de stress antérieurs ainsi que les effets du soutien social sur les symptômes autodéclarés, l'engagement à l'égard du rôle des casques bleus et l'engagement à l'égard des Forces canadiennes, trois variables censées être des indicateurs de la capacité opérationnelle. Cette étude constitue également la première phase d'un programme de recherche longitudinale, conçu pour évaluer les effets des facteurs de prédéploiement et des activités de déploiement sur l'adaptation psychologique pendant le déploiement et après le déploiement. Cinq cent trente-deux membres des Forces canadiennes destinés à faire partie du renfort pour une mission de paix ont pris part à la recherche. Une analyse de variance simple a révélé que les niveaux moyens avaient tendance à être uniformes selon les groupes démographiques. Des analyses de régression hiérarchique ont été utilisées pour évaluer l'applicabilité des théories socio-cognitives de l'adaptation au domaine de la capacité opérationnelle dans le contexte des missions de paix. En particulier, nous avons vérifié l'influence des différences individuelles sur le plan de la personnalité et de l'évaluation des situations, et déterminé quelles variables dans ces groupes étaient exclusivement associées à chacun des indicateurs de la capacité opérationnelle, après avoir pris en compte les effets des facteurs de stress antérieurs et du soutien social. Les résultats ont confirmé l'importance des perceptions individuelles en ce sens que les différences individuelles et l'évaluation des situations permettaient systématiquement de prévoir chacun des trois indicateurs de la capacité opérationnelle. En revanche, le soutien social et les facteurs de stress antérieurs étaient des prédicteurs moins uniformes de la capacité opérationnelle. Ces résultats sont analysés en tenant compte de l'utilité particulière que revêt cette recherche pour une meilleure compréhension des facteurs qui influent sur l'adaptation psychologique aux différentes phases du cycle de déploiement.

Executive summary

Background: Operational accounts and research have revealed the significant psychological toll of peace support missions on military personnel. As important as this information is, there are a variety of important issues that currently remain unaddressed. First, most military research in the area has focused almost exclusively on the most intense negative aspects and outcomes of military operations. However, some recent research has suggested that there are positive aspects associated with a variety of military service experiences, including peace support operations, and that these positive aspects have a significant buffering effect on the stress associated with military missions. Second, the vast majority of research related to military deployments occurs post-mission, often years after a mission ends. We know very little about the specifics of the predeployment phase, or how factors at this point in the deployment cycle influence the subsequent adaptation of soldiers. Further, to date, there is virtually no research that focuses on the experience of augmentees, those regular force and reserve military personnel who serve on peace support operations as individuals or in small groups that are attached to deployed formed units. However, these soldiers may be at greatest risk for stress-related outcomes as they often lack the organizational and interpersonal support that comes from being deployed in a formed unit.

Purpose: The present research was undertaken to begin to address these issues. Specifically, we assess several personality or individual difference variables assumed to be associated with psychological resiliency and vulnerability. We also measure both positive and negative appraisals associated with an upcoming deployment, as well as the effects of social support, and prior stressors on three indicators of operational readiness: self-reports of physical and psychological symptoms, commitment to the role of peacekeeper, and commitment to the Canadian Forces. We pursue this research using a sample of CF augmentees undergoing training for an upcoming peace support mission. We also investigate whether differences on any of the measured variables are associated with demographic factors such as gender, marital status, rank, regular or reserve force membership, previous peacekeeping experience, mission theatre, and elemental command. Finally, we test social cognitive models of stress and coping in order to determine whether the measured 1) individual differences, 2) situational appraisals, and/or 3) social support and prior stressors were significantly and uniquely associated with measures of operational readiness.

Participants: 532 Canadian Forces personnel who were completing the basic peacekeeping predeployment training course at the Peace Support Training Center (PSTC), CFB Kingston were the participants in this study.

Procedure: A DRDC research assistant recruited participants during the first day of the Basic Peacekeeper Training Course. The study background and aims were explained and it was made clear to participants that their participation was voluntary and entirely independent of their predeployment training. Interested participants picked up a questionnaire to be completed during the evening hours in their barracks room and returned the next day, either to the research assistant directly, or dropped off in a locked box in the students' common room for later retrieval by the research assistant.

Results: Correlational results served to confirm the majority of our hypotheses. Psychological Hardiness, Dispositional Optimism, and Extroversion, personality measures of psychological resiliency, were positively related to each other, and negatively related to Neuroticism, a measure of psychological vulnerability. The measures of psychological resiliency were also related to positive situational appraisals, that is, positive expectations concerning the upcoming deployment, but were largely unrelated to concerns about the upcoming deployment. Neuroticism, however, was strongly and negatively associated with expectations and strongly positively associated with deployment concerns. Higher levels of personality-based Psychological Hardiness, Dispositional Optimism, and Extroversion and positive deployment expectations were also related to higher levels of well-being, to higher levels of commitment to the role of peacekeeper, and to commitment to the Canadian Forces. Neuroticism and concerns about the upcoming deployment were associated with lower levels of well-being, and concerns about the deployment were also associated with lower levels of commitment to the CF. Neuroticism was unrelated to either commitment variable. Experiencing prior military stressors, and level of social support for the upcoming deployment were largely unrelated to any of the personality measures, situational appraisals, or indicators of operational readiness.

We also sought to determine if there existed differences on any of the assessed variables based on major demographic groupings. That is, overall, personality variables, situational appraisals, social support, prior stressors, level of commitment (to either to peacekeeping or the CF), and number of reported symptoms did not differ based on respondents' gender, marital status, rank group, prior peacekeeping experience, deployment mission theatre, regular versus reserve force status, or elemental command. Where differences did appear, they were largely in line with previous literature. For instance, personnel with previous peacekeeping experience tended to have more positive predeployment expectations than did personnel who were about to deploy on a peacekeeping mission for the first time. In cases where statistically significant group differences did emerge, the absolute magnitude of these differences, i.e., the psychological significance or relevance, tended to be quite small. For instance, although males reported significantly higher numbers of prior stressors than did females, as did experienced versus novice peacekeepers, overall very few stressors were reported by the personnel in this sample.

Hierarchical regressions were used to assess applicability of social cognitive theories of adaptation to the realm of operational readiness for peace support operations. Specifically, we tested the primacy of individual differences in personality and situational appraisals, and which variables within these groups were uniquely associated with each indicator of operational readiness, after controlling for the effects of prior stressors and social support. Results confirmed that individual differences and situational appraisals consistently predicted each of the three indicators of operational readiness. Specifically, higher dispositional optimism, lower neuroticism, fewer deployment concerns, and higher prior military stressors were associated with fewer symptoms, that is higher levels of well-being, for these augmentees. Higher commitment to the role of peacekeeper was predicted by higher psychological hardiness, higher extroversion, and by more positive expectations and fewer deployment concerns. Neither social support nor prior military stressors predicted commitment to the role of peacekeeper. Higher levels of psychological hardiness and dispositional optimism, more concerns about the upcoming deployment, and higher levels of social support predicted higher levels of commitment to the CF.

Discussion: This research contributes to our understanding of psychological adaptation processes in the context of peace support operations in at least two ways. First, it identifies several individual differences that appear to provide a significant buffering effect on the stress associated with deployments, in addition to exploring the factors associated with vulnerability to the negative effects and consequences of military operations. Thus, this research allows for the specification of individual difference variables that may affect long-term psychological resiliency, speaking to personnel selection in instances where training cannot ameliorate the negative effects of a deployment. Second, we also assess the impact of situation-specific perceptions associated with predeployment psychological adaptation. By focusing on situation-specific perceptions that may act as precursors to adaptation, the findings of this research can be used to inform and modify predeployment training content and delivery that may avert later maladaptive responses. Indeed, a key future research challenge will be to determine the extent to which those perceptions most associated with psychological resiliency and positive adaptational outcomes can be modeled and incorporated into training packages.

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Sommaire

Renseignements de base : Les études et les comptes rendus des opérations ont mis en évidence les lourdes séquelles psychologiques que laissent les missions de paix sur les militaires. Si importante que soit cette information, diverses questions d'un intérêt capital n'ont pas été encore été traitées. D'abord, la plupart des recherches militaires effectuées dans le domaine ont porté presque exclusivement sur les conséquences et les aspects les plus négatifs et les plus graves des opérations militaires. Or, des études récentes révèlent que diverses expériences militaires, y compris les opérations de paix, comportent des aspects positifs, qui ont un effet tampon majeur sur le stress associé aux missions militaires. Puis, la vaste majorité des études concernant les déploiements sont effectuées lorsque les missions sont terminées, souvent plusieurs années après la fin de la mission. On ne sait pas grand chose de l'étape du prédéploiement, ou des effets des facteurs de stress éventuellement subis par les soldats à cette étape sur leur adaptation. De plus, à ce jour, il n'existe essentiellement aucune étude portant sur l'expérience du personnel de renfort, soit les membres de la Force régulière et de la Force de réserve qui participent aux opérations de maintien de la paix en se joignant, à titre individuel ou en petits groupes, aux unités formées déployées. Cependant, ces soldats pourraient être les plus susceptibles de subir des effets liés au stress, étant donné que, souvent, ils ne bénéficient pas du soutien organisationnel et interpersonnel assuré aux membres d'une unité déjà formée qui est en déploiement.

But : Nous avons entrepris la présente étude dans le but d'examiner ces questions. Tout d'abord, nous évaluons plusieurs variables liées à la personnalité ou aux différences individuelles censées être associées au ressort et à la vulnérabilité psychologiques. Nous mesurons également les évaluations positives et négatives associées au déploiement imminent, de même que les effets du soutien social et des facteurs de stress antérieurs sur trois indicateurs de la capacité opérationnelle : symptômes physiques et psychologiques autodéclarés, engagement à l'égard du rôle des casques bleus et engagement à l'égard des Forces canadiennes. Nous menons cette étude auprès d'un échantillon de membres du personnel de renfort des FC participant à une formation en prévision d'une mission de paix imminente. Nous vérifions en outre si les différences dans l'une ou l'autre des variables mesurées sont associées à des facteurs démographiques comme le sexe, l'état civil, le rang, l'appartenance à la Force régulière ou à la Force de réserve, l'expérience des missions de paix, le théâtre des missions et le niveau de commandement. Enfin, nous procédons à des analyses de régression hiérarchique afin de déterminer si 1) les différences individuelles, 2) l'évaluation des situations, et/ou 3) le soutien social et les facteurs de stress antérieurs mesurés étaient associés de manière significative et exclusive aux mesures de la capacité opérationnelle.

Participants : 532 membres des Forces canadiennes qui suivaient la formation de base prédéploiement concernant les missions de paix au Centre de formation des Forces canadiennes pour le soutien de la paix (CFFCSP), BFC Kingston.

Méthode : Un adjoint de recherche de RDDC a recruté des participants durant la première journée du cours de formation susmentionné. Le contexte et les objectifs de l'étude ont été expliqués, et l'on a indiqué clairement aux participants que la participation à l'étude était

facultative et qu'elle était tout à fait indépendante de leur formation prédéploiement. Les participants intéressés ont pris un questionnaire, qu'ils devaient remplir en soirée dans leur caserne et soit retourner le lendemain directement à l'adjoint de recherche, soit déposer dans une boîte fermée à clef dans la salle commune des stagiaires, où l'adjoint de recherche devait passer pour ramasser les questionnaires.

Résultats : Les corrélations ont permis de confirmer la majorité de nos hypothèses. La force psychologique, le caractère optimiste et l'extraversion, des mesures du ressort psychologique, étaient interreliés positivement, et reliés négativement au névrosisme, une mesure de la vulnérabilité psychologique. Les mesures du ressort psychologique étaient en outre reliées à une évaluation positive des situations, c'est-à-dire des attentes positives, mais étaient essentiellement non reliées aux préoccupations quant au déploiement imminent. Par ailleurs, le névrosisme était fortement et négativement associé aux attentes et très positivement associé aux préoccupations quant au déploiement. Des degrés plus élevés de force psychologique, d'optimisme et d'extraversion (caractéristiques de la personnalité), de même que des attentes positives quant au déploiement, étaient également associés à des degrés plus élevés de bien-être et d'engagement à l'égard du rôle des casques bleus et à l'égard des Forces canadiennes. Le névrosisme et les préoccupations quant au déploiement imminent étaient associés à des niveaux moins élevés de bien-être, et les préoccupations quant au déploiement étaient en outre associées à des niveaux moins élevés d'engagement à l'égard des FC. Le névrosisme n'était associé à aucune des variables de l'engagement. Le stress antérieur lié aux expériences militaires et le niveau de soutien social concernant le déploiement imminent étaient essentiellement non liés à l'un ou l'autre des facteurs de la personnalité, des évaluations des situations ou des indicateurs de la capacité opérationnelle.

Nous avons également tenté de déterminer s'il y avait des différences dans l'une ou l'autres des variables évaluées selon les grands groupes démographiques en effectuant une analyse de variance simple. Dans l'ensemble, les facteurs de la personnalité, l'évaluation des situations, le soutien social, les facteurs de stress antérieurs, le niveau d'engagement (à l'égard du rôle des casques bleus ou des FC), et le nombre de symptômes déclarés ne différaient pas de façon significative selon le sexe, l'état civil, le rang, l'expérience de missions de paix, le théâtre des missions, l'appartenance à la Force régulière ou à la Force de réserve, ou le niveau de commandement. Dans les cas où des différences ont effectivement été observées, celles-ci étaient essentiellement conformes à celles mises en évidence dans les études antérieures. Par exemple, le personnel qui avait une expérience des missions de paix avait généralement des attentes plus positives avant le déploiement imminent que le personnel qui allait être déployé pour la première fois. Dans les cas où des différences statistiquement significatives ont été mises en évidence, l'ampleur absolue de ces divergences, c.-à-d. la pertinence ou l'importance sur le plan psychologique, était généralement très minime. Par exemple, bien que les hommes aient déclaré un nombre beaucoup plus élevé de facteurs de stress antérieurs que les femmes, à l'instar des casques bleus expérimentés par opposition à leurs homologues novices, très peu de facteurs de stress, dans l'ensemble, ont été mentionnés par le personnel de cet échantillon.

Des analyses de régression hiérarchique ont été utilisées pour évaluer l'applicabilité des théories socio-cognitives de l'adaptation au domaine de la capacité opérationnelle dans le contexte des missions de paix. En particulier, nous avons vérifié l'influence des différences individuelles sur le plan de la personnalité et de l'évaluation des situations, et déterminé quelles variables dans ces groupes étaient exclusivement associées à chacun des indicateurs de

la capacité opérationnelle, après avoir pris en compte les effets des facteurs de stress antérieurs et du soutien social. Les résultats ont confirmé que les différences individuelles et l'évaluation des situations permettaient systématiquement de prévoir chacun des trois indicateurs de la capacité opérationnelle. En particulier, un degré d'optimisme plus élevé, un niveau de névrosisme plus faible, un nombre moindre de préoccupations quant au déploiement et un plus grand nombre d'expériences militaires stressantes étaient associés à un nombre moins élevé de symptômes, c'est-à-dire des niveaux de bien-être plus élevés, chez ce personnel de renfort. Un niveau d'engagement plus élevé à l'égard du rôle des casques bleus était associé à des degrés plus élevés de force psychologique et d'extraversion, ainsi qu'à des attentes plus positives et à un nombre moindre de préoccupations quant au déploiement. Ni le soutien social ni les expériences militaires stressantes antérieures n'étaient associés à l'engagement à l'égard du rôle des casques bleus. Un degré plus élevé de force psychologique et d'optimisme, un plus grand nombre de préoccupations quant au déploiement imminent et un niveau de soutien social plus élevé étaient associés à un niveau plus élevé d'engagement à l'égard des FC.

Analyse : Ce projet de recherche nous aide à comprendre les processus d'adaptation psychologique dans le contexte des missions de paix de plusieurs façons. D'abord, il met en évidence plusieurs différences individuelles qui semblent avoir un effet tampon majeur sur le stress associé aux déploiements, en plus d'examiner les facteurs associés à la vulnérabilité aux conséquences et effets négatifs des opérations militaires. Par conséquent, ce projet de recherche permet de cerner les différences individuelles qui peuvent influer sur le ressort psychologique à long terme et de sélectionner le personnel en conséquence dans les cas où la formation ne peut améliorer les effets négatifs d'un déploiement. Puis, nous évaluons également l'incidence des perceptions concernant une situation particulière, associées à l'adaptation psychologique avant le déploiement. En mettant l'accent sur les perceptions concernant une situation particulière qui peuvent agir comme précurseurs de l'adaptation, les conclusions de ces recherches pourront être utilisées pour guider et adapter le contenu et la prestation de la formation prédéploiement de manière à éviter des difficultés d'adaptation ultérieures. En fait, l'un des principaux défis qui se poseront dans le cadre des recherches futures sera de déterminer la mesure dans laquelle les perceptions les plus étroitement associées au ressort psychologique et à l'adaptation peuvent inspirer le matériel de formation et y être intégrées. Dans l'avenir, nos projets de recherche seront également orientés vers des tests portant sur les effets de ces variables du prédéploiement sur l'adaptation psychologique du personnel de renfort aux missions de maintien de la paix pendant le déploiement et après le déploiement. En outre, nous élargirons notre programme de recherche de manière à y inclure d'autres groupes du personnel militaire qui font moins souvent l'objet d'études mais qui prennent part néanmoins à d'importantes missions opérationnelles.

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Introduction

Operational accounts and a growing body of empirical evidence indicate that there can be significant psychological costs to military personnel who serve on modern peace support missions (e.g., Aldwin, Levenson, & Spiro, 1994; Capstick, 2000; Davis, 1997; Dallaire, 2000; Elder, & Clipp, 1989; Lamerson & Kelloway, 1996; Litz, Orsillo, Friedman, Ehlich, & Batres, 1997; Mackenzie, 1993; Thompson & Gignac, 2002). Much of the research literature in this area has focused on intense, combat-related stressors and their contribution to severe psychological outcomes like post-traumatic stress disorder (PTSD), substance abuse and suicide (Aldwin, et al., 1994; Centers for Disease Control, 1987; Elder, & Clipp, 1989; Litz et al., 1997; Spiro, Schnurr, & Aldwin, 1994). As important as this information is, there are a variety of important issues that currently remain unaddressed.

First, as noted above, most military deployment-related research focuses almost exclusively on the most intense, negative aspects and outcomes of operations. However, some recent research has suggested that there are positive aspects associated with a variety of military service experiences, including peace support operations, and that these positive aspects can provide a significant buffering against the negative effects of stressful operations (Aldwin et al., 1994; Litz et al., 1997). Moreover, although a proportion of personnel (reported percentages vary between 10 – 30 %) experience stress-related problems after a mission, and are deserving of support and assistance, a majority of soldiers do not report long-term problems associated with their military experiences (e.g., Desivilya & Gal, 1998). Thus, it seems that both positive and negative experiences should be assessed in order to provide a more accurate picture of the deployment experience, and the potentially distinct effects of positive and negative experiences and appraisals on the various aspects of the operational readiness of military personnel. Understanding the factors that promote psychological resiliency may provide important insights and means to prevent or ameliorate psychological stress encountered, for instance through modifications to training systems.

A second, related issue is that the majority of outcome measures in the military stress literature focus (understandably) exclusively on indicators of mental health. Although these indicators are fundamentally important, to date, there has been less attention to other indicators of adaptation that may speak to other facets of operational readiness and effectiveness. Expanding our outcome measures to include a wider range of outcomes, such as those related to operational readiness and effectiveness can paint a more complete picture of the impact of deployments on military personnel. Documenting the effects of these additional measures may prove to provide additional compelling arguments to begin to address and integrate findings from deployment research into policy, doctrine and training.

Third, the vast majority of research related to military deployments occurs in the post-mission phase. Indeed, information is often obtained long after soldiers have returned from an operation. Relatively little is known about the predeployment phase of a mission, even though soldiers typically undergo months of intense training and report that the impact and stress of a mission begins well before they leave home soil (Bartone, 1999; MacDonald, Chamberlain, Long, & Mirfin, 1999; Thompson & Gignac, 2002). Moreover, we know little about how predeployment factors affect the short and longer-term adaptation of soldiers.

Fourth, there is virtually no research that focuses on the experience of military augmentees, those regular force and reserve military personnel who serve on peace support operations as individuals

or in small groups that are attached to deployed formed units. However, these individuals may be at greatest risk for stress-related outcomes as they often lack the organizational and interpersonal support that comes from being deployed in a formed unit (Thompson & Gignac 2002). This is particularly troubling as many force projections suggest that augmentees and reservists will comprise up to 30% of future personnel deployed to major operations (Bartone, 1999; Thompson & Gignac, 2002; Wynd & Ryan-Wenger, 1998).

The present research was undertaken to begin to address these issues. First, we assess factors that might be associated with both psychological resiliency and vulnerability. We do so at the level of individual differences in personality, and at the level of situation-specific appraisals related to a future deployment. Second, we expand our assessment of outcomes beyond self-reports of psychological and physical symptoms, to include soldiers' predeployment commitment levels, both to the role of peacekeeper and to the Canadian Forces (CF); factors the literature suggests are related to operational readiness. Third, we focus on these soldiers' experiences during predeployment training. Fourth, we investigate the effects of these variables on a sample of CF augmentees to peace support operations.

In addition, we measure the impact of level of social support, and prior stressors, two variables consistently related to post-mission psychological adaptation (e.g., King, King, Foy, Keane, & Fairbank, 1999; Solomon, Margalit, Waysman, & Bleich, 1991). Finally, as this is one of the first studies to address these issues within the Canadian military, we also conduct exploratory analyses to determine if there exist any differences in the assessed variables that are associated with particular demographic groups.

This research represents the initial empirical tests of a conceptual model of psychological adaptation across peace support operation deployment cycle (Thompson & Gignac, 2001). This model, which integrates the military psychology literature with more traditional social psychological theories, was developed to identify the multiple demands and rewards associated with peace support operations and their potential effects on military personnel. We begin our discussion by outlining social cognitive theories of stress and coping, the theoretical foundation of our conceptual model and this research.

Social cognitive theories of stress and coping

The conceptual foundation of this work is social cognitive theory, which has dominated much of social psychological research for the past several decades (Bandura, 1977; 1989). Social cognitive theory assumes that people are capable of self-reflection and self-regulation and that they actively shape their environments rather than simply passively reacting to events that occur. The theory does not diminish the impact that stressful events have on people. Rather, it acknowledges the important interaction of experiential forces with the physiological, cognitive, emotional, and behavioral responses of individuals.

Our work is particularly influenced by three seminal social-psychological theories relevant to stress and coping, psychological adaptation, and resiliency: the transactional theory of coping (Lazarus & Folkman, 1984), cognitive adaptation theory (Taylor, 1983), and social-cognitive learning theory (Bandura, 1977). Accordingly, individuals' perceptions are seen as the chief determinants of the magnitude of people's stress reaction and their coping efforts. Two classes of perceptions are emphasized: those reflecting relatively enduring individual differences in ways of perceiving and dealing with experiences, and more temporally constrained, situation-specific

appraisals. This focus reflects the contention that perceptions, both those reflected in individual differences and predispositions and more situation-specific appraisals directly serve as the primary sources of resilience, although additional social and organizational resources may be implicated in the stress-appraisal-outcome relation.

Individual differences or predispositions

Individual differences are relatively enduring patterns of reactions and beliefs that affect the way experiences are comprehended and acted upon (Folkman, Lazarus, Gruen, & DeLongis, 1986). The relative stability of these responses means that individual differences typically predispose people to act and react in particular ways. They can act as moderators affecting resiliency or vulnerability in the face of stressful events (Kobasa, 1979a; 1979b; Scheier Carver, & Bridges, 2001). They can also affect more situation-specific expectations and appraisals. Several predispositions that are important in psychological adaptation and operational readiness are outlined below.

Psychological hardiness

Psychological hardiness has generated a vast research literature, beginning with Kobasa's seminal work in the late 1970's on individual differences in the life stress-illness relation (Kobasa, 1979a; 1979b). The results of her research showed that a certain proportion of people could experience a high number of stressful life events and remain healthy; that is they appeared to be hardy or resilient in the face of stress that made other people succumb to illness. A high level of commitment to work, a sense of control over the outcome of events, and a tendency to view changes and demands in life as challenges and opportunities, rather than threats, were the primary features that served to distinguish "hardy" from "nonhardy" individuals. Kobasa's results were replicated and extended in a prospective study that also revealed hardiness levels could predict illness over a 5-year period (Kobasa, Maddi, & Kahn, 1982). Other research has suggested that psychological hardiness is associated with more positive affect and indices of well-being (Manning, Williams, & Wolfe, 1988).

Hardiness appears to mitigate the stress-health relationship in several ways. Hardiness facilitates the use of adaptive coping mechanisms such as problem-solving and information seeking (Gentry & Kobasa, 1984). It also reduces the likelihood that stressful events will intrude into other parts of life and it directly controls psychological distress by reducing appraisals of threat and increases expectations of success (Florian, Mikulincer, & Taubman, 1995; Taylor & Aspinwall, 1996). Even when faced with negative outcomes, hardy individuals tend to provide external, unstable and specific explanations when their actions are associated with negative outcomes, and attribute positive outcomes to their own abilities and skills (Hull, Van Treuren, & Propsom, 1984), a pattern of appraisals associated with well-being (Taylor & Brown, 1988).

Research in military environments has shown that hardiness is similarly associated with better psychological and physical health outcomes. For instance, soldiers with higher hardiness scores are less likely to report Post-traumatic Stress Disorder (PTSD) symptoms in response to chronic stressors and severe traumatic events experienced during their deployment. Multiple studies have shown that higher levels of dispositional hardiness were related to a lower number of reported psychiatric symptoms (Florian et al., 1995;

King, King, Fairbank, Keane, & Adams, 1998; Litz et al., 1997), particularly for soldiers who experienced high stress and multiple stress conditions (Bartone 1999; Bartone, Ursano, Wright, & Ingraham, 1989).

In one of the few prospective studies to date, Florian et al., (1995) investigated the impact of personality hardiness in the context of a four-month highly stressful combat training course for Israeli military recruits. Hardiness, assessed at the beginning of the training period was related to mental health indicators that were assessed subsequently during the course. Results revealed that hardiness, in particular the commitment and control components, were associated with less threatening appraisals of the training, and higher expectations of skills to successfully complete the training, and the use of more adaptive coping mechanisms such as problem solving. In turn, these positive appraisals and coping strategies were then related to better mental health at the end of training. In a further study of U.S. peacekeepers, Britt, Adler, & Bartone (2001) found similar processes at work. Hardy soldiers reported finding more meaning in their work as peacekeepers during their deployment to Bosnia and that this meaningfulness was subsequently associated with continuing to derive benefits from the experience months after the deployment had ended. Taken together then, this literature suggests that hardiness should work as a psychological resiliency factor, promoting the well-being and operational readiness of military personnel.

Dispositional optimism

Dispositional optimism (Scheier & Carver, 1985, 1987) is a second personality predisposition expected to be associated with psychological resiliency. As the name implies, dispositional optimism is a generalized tendency to expect positive outcomes. The literature suggests that dispositional optimism is related to better outcomes on various indices of health and well-being. For instance, higher levels of dispositional optimism are associated with higher levels of general health perceptions, psychological well-being and life satisfaction, and with lower levels of depression and physical pain (Achat, Kawachi, Spiro, DeMolles, & Sparrow, 2000; Chang, 1998a; Ebert, Tucker, & Roth, 2002; see also Wrosch & Scheier, 2003). Greater dispositional optimism has also been shown to prevent illness, foster recovery and assist in longer term post-stressor adaptation (Affleck, Tennen, & Apter, 2001). For instance, individuals higher in dispositional optimism had faster physical recovery rates after cardiac surgery and reported a more positive quality of life six months after surgery (Scheier, Matthews, Owens, Magovern, Lefebvre, Abbott, & Carver, 2003). Optimists also report higher levels of social support (Scheier & Carver, 1985).

Optimists also report easier life transitions and respond more positively to stressful life experiences and major life events (Aspinwall & Taylor, 1992; Litt, Tennen, Affleck & Klock, 1992; Brissette, Scheier & Carver, 2002). Research shows that individuals with higher dispositional optimism respond to specific failure experiences with greater resiliency (Martin-Krumm, Sarrazin, Peterson, & Famose, 2003). This interaction effect was recently demonstrated in a war-related domain. Specifically, lower levels of dispositional optimism were found to be related to higher levels of psychological maladjustment among war refugees from Kosovo (Riolli, Savicki, & Cepani, 2002).

The mechanisms associated with the optimism-adaptation relation are similar to those enumerated for hardiness, and appear to include flexibility in cognitive processing, especially with respect to the determination of adequacy of coping resources in stressful situations (Aspinwall, Richter, & Hoffman, 2001, Chang 1998b). The buffering effects are also apparent at an immunological level, at least during acute episodes of stress (Cohen, Kearney, Zegans, Kemeny, Neuhaus, & Stites, 1999, Scheier & Carver, 1987).

The literature concerning the effects of dispositional optimism is remarkably consistent. These findings do suggest that, dispositional optimism will work as a protective factor, and be related to resiliency among these soldiers. Thus, we expect optimism to be associated with increased operational readiness, in terms of fewer self-reported symptoms and increased commitment, similar to hardiness. However, the effects of dispositional optimism in military samples have yet to be established empirically.

Extroversion

A third variable expected to be associated with resiliency is extroversion, referring to an individual's tendency to be emotionally expressive, assertive, adventurous, energetic and sociable (John & Srivastava, 1999). A greater degree of extroversion is associated with lower self-reports of physical symptoms (Ebert et al, 2002), with higher levels of general well-being (Hayes & Joseph, 2003) and lower levels of drinking and alcohol problems (Ruiz, Pincus, & Dickinson, 2003). Extroversion is also related to increases in self-esteem after a significant life transition (Kling, Ryff, & Love, 2003). In the occupational domain, extroversion is positively associated with higher job satisfaction (Judge, Heller, & Mount, 2002) and lower turnover (Judge, et al., 2002). Extroversion is also related to more positive social interactions, which are often related to more adaptive stress-related outcomes. These findings indicate that Extroversion will also be a protective factor that promotes psychological resilience and operational readiness for military personnel.

Neuroticism

Neuroticism refers to the tendency to be emotionally volatile or easily upset versus general emotional stability. There is a wealth of literature supporting the hypothesis that neurotic individuals tend to fare poorly in the face of stress (e.g., Gallagher, 1996; Kling et al., 2003; Rolland & DeFruyt, 2003; Wayne, Musisca, & Fleeson, 2004). Individuals scoring higher on neuroticism are more likely to use maladaptive coping strategies (McCrae & Costa, 1989); they use alcohol more frequently and they report experiencing more alcohol problems (Ruiz, Pincus, & Dickinson, 2003). Neuroticism is also associated with increased numbers of physical complaints on general self-reports of health status (Costa & McCrae, 1987; Ebert, et al., 2002) as well as in terms of diagnosed diseases (e.g., Goodwin & Stein, 2003). Neuroticism is also associated with lower levels of well-being (Ebert et al., 2002), less happiness, and lower life satisfaction (Hayes & Joseph, 2003). A recent meta-analysis also indicated that neuroticism is negatively associated with job satisfaction (Judge, et al., 2002). Applying this literature to the present research then, we expect that higher levels of neuroticism will be a vulnerability factor and thus be associated with lower levels of well-being and operational readiness.

Positive and negative situational appraisals: Predeployment expectations and concerns

Unlike the predispositions discussed above, expectations and appraisals are dynamic and situation-specific, although they may be influenced by predispositions. Appraisals reflect current assessments while expectations assess perceptions of future experiences. Similar to predispositions, we expect that appraisals will affect indicators of psychological adaptation in Canadian Forces augmentees. Key appraisals and expectations include whether the event is interpreted positively or negatively, whether there is the potential for threat, harm, loss, or challenge, and whether people perceive that they have sufficient coping resources, skills and abilities to meet the demands and challenges encountered (Lazarus & Folkman, 1984).

Appraisals and expectations are directly linked to the intensity of stress reactions and coping efforts (Catanzaro & Mearns, 1999). Appraisal processes are generally considered to be central in understanding the development of post-traumatic phenomena (Joseph, 1999; see also Ehlers, 1999). For example, a person who believes their survival of a traumatic event constitutes a lucky escape is expected to have a better prognosis than someone who persists in believing the event to be something senseless that has irrevocably impaired their life (Joseph, Williams, & Yule, 1993). Negative appraisals or concerns are associated with a variety of additional negative outcomes, including decreased positive affect and with less adaptive coping efforts (e.g., excessive drinking, avoidance, e.g., Kassel, Jackson & Unrod, 2000). Conversely, positive appraisals that help people derive meaning from experiences, gain a sense of mastery, maintain or bolster self-esteem, and that allow the integration of stressful events into an overarching narrative about one's life are related to more rapid, adaptive, and complete recovery from negative events (Holman & Cohen-Silver, 1998; Taylor, 1983). 'Successful adapters' are also better able to alter their beliefs when they were not confirmed (Taylor, 1983). This suggests that flexibility rather than the accuracy of a belief is a hallmark of successful adaptation.

Some research from within a military context speaks to the effects of situational appraisals on adaptational outcomes. Mikulincer & Florian (1995) found that military recruits who appraised their basic training as more threatening (versus challenging) tended to use less problem-focused coping strategies and to view themselves as less successful in that training, relative to recruits who appraised the training to be less threatening (and more of a challenge). Positive appraisals of training as challenging, versus threatening, were related to positive mental health outcomes in another group of recruits (Florian et al., 1995). Certainly, the extensive literature on military veterans with PTSD also confirms that sufferers report a negative constellation of appraisals (Weathers, Litz, & Keane, 1995). Hence our expectation is that peacekeepers who have higher levels of concern, and less positive expectations regarding their upcoming mission are expected to be at a disadvantage relative to those who hold largely positive expectations and lower levels of concerns.

Prior stressors

Adler, Litz, & Bartone (2003) note the range of stressors peacekeepers may encounter runs from the mundane to the traumatic. Examples of low level but nonetheless chronic stressors include family separation, unfamiliar surroundings, boredom, environmental stressors such as living conditions and climate, as well as issues and stresses associated with leadership and esprit de corps (see also Lamerson & Kelloway, 1996). Peace support operations also involve less frequent, moderately intense stressful events such as conflict at checkpoints, and experiencing other types

of hostile activities from warring factions and rejection the local population (Adler et al., 2003). Soldiers serving in peace operations also confront additional complex stressors. These include being called upon to directly enforce peace between warring factions, delivering humanitarian aid in the midst of political-social devastation, and the need to balance shifting rules of engagement (Mehlum & Weisaeth, 2002; Orsillo, Roemer, Litz, Ehlich, & Friedman, 1998). Peace support personnel must also deal with extreme cultural differences, either with respect to the local population in the mission location and/or working in multinational contingents (Elron, Halevy, Ben Ari, & Shamir, 2003; Soeters & Bos-Bakx, 2003).

Depending on the mission, personnel serving in modern peace support operations may also experience intense traumatic stressors including witnessing atrocities, ethnic cleansing, and handling of bodies, including discovering, documenting and disinterring mass graves (Adler, et al., 2003). For example, Canadian peacekeepers deployed in the first rotations into the former Yugoslavia reported being regularly exposed to combat conditions, including being the targets of direct attacks. Approximately two thirds of these troops indicated that they had received incoming artillery, rocket or mortar fire, rifle, and machine gun or sniper fire. In addition, over fifty percent of these soldiers also reported seeing civilians killed or wounded, with a similar proportion reporting that they had witnessed a colleague being killed or injured (c. i., Lamerson & Kelloway, 1996).

These multiple stressors mean that in addition to traditional combat reactions of fear and anxiety, military personnel deployed to peace support operations may also develop feelings of ambiguity, helplessness, and powerlessness (Bartone et al. 1998). As one Canadian peacekeeping veteran told the first author, "Nobody ever trained you to sit there in a compound … and watch women and children being shot like animals throughout the second floor of a house. … That's got to be one of the worst things a human being can [endure]. There you are, trained, you've got weapons in your hand, yet there's absolutely nothing you can do." (Thompson & Gignac, 2002, p. 235).

There is a strong association between experiencing stressful events during military operations and negative adaptational outcomes such as PTSD among military personnel participating in a wide range of military activities from traditional war-fighting to peace support operations (Adler, Vaitkus, & Martin, 1996; Fontana & Rosenheck, 1999; Green, Grace, Lindy, & Gleser, 1990; McCarroll, Ursano, Fullerton, Liu, & Lundy, 2001). For instance, in their study of U.S. peacekeepers, Orsillo et al., (1998) found that over one third of their sample met the criteria for psychiatric distress. Their findings also showed that one of the best predictors of soldiers' current functioning included exposure to traditional war-zone stressors. Other work reveals the cumulative impact of stress exposure. Soldiers having a threshold level of PTSD symptomology reported experiencing twice as many prior stressful events as those soldiers who did not meet the threshold, with the majority of these events not occurring as a direct result of their military service (Bolton, Litz, Britt, Adler, & Roemer, 2001; see also Martin, Rosen, Durand, Knudson, & Stretch, 2000).

The effects of experiencing stressors are often long lasting. Much of the research showing the exposure-long-term distress relation is based upon veterans with diagnosed PTSD, and can thus be influenced by retrospective bias and this medical condition. However, one study looked at 30 Israeli soldiers who experienced a combat stress reaction in one war and had continued their military service, coping successfully in a second conflict (Solomon, Oppenheimer, Elizur, & Waysman, 1990). Results showed the lingering effects of prior stressful experiences three years after the second conflict. Importantly, in many ways these soldiers appeared to be functioning well interpersonally and in terms of their military careers. Nonetheless they continued to report

increased levels of psychological distress and had more anxiety with respect to the possibility of a future conflict, than veterans that had not had a combat stress reaction (Solomon, et al, 1990). This research indicates that augmentees, who report more prior stressful life events, may report lower levels of operational readiness, specifically lower well-being and commitment levels.

Social support

Social support is the degree to which people's basic social needs are met based on the size and quality of their social network (Berkman, 1985). Social support may be available as tangible assistance providing physical necessities or help, as information or advice seeking concerning specific actions, or as emotional support, that is, expressions of care and comfort. Whatever form of social support is proffered, particularly important is the feeling that there exist people who will be there for the person in times of need (Taylor, 1991).

An abundance of research shows that social support can ameliorate stress (e.g., Coyne, & DeLongis, 1986; DeLongis, Folkman, & Lazarus, 1988; Hobfoll & London, 1986; King et al., 1998; Lazarus & DeLongis, 1983). Higher levels of social support are related to lower levels of psychological and somatic problems (DeLongis et al., 1988). Support speeds and enhances recovery when illness does occur (Taylor, 1991). Indeed, lower levels of social support are related to increased mortality rates in population health studies (Berkman & Syme, 1994; House, Landis, & Umberson, 2003). Interestingly, there are consistent gender differences in the sources and impact of support, with women appearing to derive more benefits from their social networks (e.g., Leiter, Clark, & Durup, 1994; Perrewe & Carlson, 2002, Taylor1991).

Within military samples, the link between social support and more positive health and well-being is also strong. Significant sources of support for soldiers appear to be informal sources such as family, friends and more formal sources such as the chain of command, as well as military medical, psychological and social services (e.g., Leiter, et al., 1994; Solomon, et al., 1991). Although many soldiers appear to view family and friends as their most significant source of support, soldiers suffering psychological distress tend to report lower levels of support from all sources (Solomon, et al., 1991). Research also shows that low levels of social support significantly contribute to serious clinical conditions such as PTSD and combat stress reactions (Dirkzwager, Bramsen, & van der Ploeg, 2003; Solomon & Mikulincer, 1990, see also Solomon, et al., 1991; Steiner and Neumann 1978). Social support has also been associated with organizational commitment in military samples (e.g., Leiter, et al., 1994).

The impact of social support is apparent throughout a deployment. For instance, social support concerns are among the issues rated as most important to soldiers before a deployment (Bartone, Adler & Vaitkus, 1998) and during deployments soldiers use social support as a primary means of coping (Bliese & Britt, 2001; Moldjord, Fossum, & Holen, 2003). The impact of social support continues well after missions end. Tension with co-workers negatively affects soldiers' post-deployment adaptation up to a year after the mission ends (Bartone et al., 1998). In one study of Israeli military veterans more intense PTSD symptoms were related to lower levels of social support three years subsequent to combat, suggesting that the lack of social support may slow the process of recovery from stress in military operations (Solomon, Mikiluncer, & Avitzur, 1988). Indeed, according to some research, the lack of post-deployment social support and instances of negative social interactions remain significant predictors of PTSD years after missions end, even after controlling for the effects of combat exposure, earlier trauma, and present stressful life

events (Fontana & Rosenheck, 1994; see also Johnson, Lubin, Rosenheck, Fontana, Southwick, & Charney, 1997).

Taken together then, this literature suggests that military personnel who report less support from within their social network should experience greater stress-related outcomes during preparations for a deployment. Moreover, female augmentees should experience the most benefits of a supportive social network.

Indicators of operational readiness

Although the military psychology literature has investigated various indicators of operational readiness, there has not been strong consensus in the selection of variables assumed to reflect the construct. A great deal of this research has focused on perceptions of combat readiness and its relation to unit-level variables and leadership (e.g., Griffith, 2002; Shamir, Brainin, Zakay, & Popper, 2000). The use of these factors in relation to readiness is obviously not useful or applicable to the present research, as the augmentees in this study undertook their predeployment training as individuals or in small groups, joining their unit after deploying. Thus, we focus on individual-level indicators of a soldier's readiness to deploy. Specifically, in the present research, we assess self-reported symptoms and their commitment to the role of peacekeeper. As an adjunct indicator, we also explore their overall level of commitment to the Canadian Forces.

Psychological and physical health symptoms

As is abundantly evident from the previous literature review self-reports of physical or psychological symptoms are one of the most widely used indicators of the effects of combat-related stress (e.g., Brailey, Vasterling, & Sutker, 1998; Ford, Campbell, Storzbach, Binder, Anger & Rohlman, 2001; Labbatte, Cardena, Dimitreva, Roy & Engel, 1998; Solomon & Mikulincer, 1987). Thus, in the present research we also assess self-reports of somatic complaints as an indicator of operational readiness to deploy.

Commitment

Commitment to a relationship, idea, role or organization involves three "ties that bind" (Allen, 2003): emotional attachment, the perceived costs of leaving, and feelings of obligation. Commitment also involves an individual's capacity to see hardships and stressful situations as meaningful, and as events that in fact serve to strength subsequent commitment (Levinger, 1983; Rusbult, 1983; Brickman, 1987). Indeed, it makes sense that commitment would be an extremely important aspect of a military value system, given the range of hardships deployed military personnel can face (potential loss of life or serious injury, uncomfortable working conditions, and long separations from family).

Past research shows that military personnel endorse all three aspects features of commitment as relevant to their careers (Karrasch, 2003). Moreover, strongly committed military personnel report higher job satisfaction (Martin & O'Laughlin, 1984), adjust more readily to military life, report higher levels of psychological well-being (Rosen & Martin, 1996), are less likely to indicate an intention to leave the military (Allen, 2003; Gade, Tiggle, & Schumm, 2003). Importantly, higher levels of commitment are associated with higher levels of self-reported operational readiness for combat (Rosen & Martin, 1996). One large-scale survey showed that commitment level had fairly strong

associations to readiness. Specifically, military personnel with higher levels of commitment felt that they were more prepared to perform their mission. Commitment to a mission was also shown to be a predictor of subsequent PTSD symptomology in one study of United Nations peacekeepers (Mehlum & Weisaeth, 2002). Finally, highly committed soldiers also exhibit higher task-related knowledge (Gade, et al., 2003), suggesting a link between commitment and objective indicators of operational effectiveness.

Hypotheses

Integrating the previous literature leads to the following hypotheses:

1. Individual difference measures of psychological resiliency (Psychological Hardiness, Dispositional Optimism, and Extroversion) should be positively related to each other, and negatively related to Neuroticism.

2. Higher psychological hardiness, dispositional optimism, and extroversion will be positively associated with higher positive expectations and fewer concerns about the upcoming deployment. On the other hand, higher levels of neuroticism will be related to greater concerns and fewer positive expectations about the upcoming deployment.

3. Following from the results concerning the relation of Dispositional Optimism, as well as Extroversion and social support, Hardiness, optimism and extroversion and positive expectations concerning the upcoming deployment will also be associated with higher perceived social support. Neuroticism will be related to lower levels of perceived social support.

4. We do not expect personality variables or social support to be associated with the number of previous stressful military events reported. However, the number of previous stressful life events is expected to influence the nature of predeployment appraisals, with higher numbers of previous stressful events being associated with lower levels of positive expectations and higher levels of deployment concerns.

5. Higher psychological hardiness, dispositional optimism, and extroversion and positive expectations will be related to fewer self-reported physical symptoms, and higher levels of commitment. Higher levels of social support and fewer prior stressors will be related to fewer somatic symptoms and greater commitment. Higher neuroticism and concerns will show the opposite pattern of effects, i.e., positive associations with higher self-reported somatic symptoms and lower levels of commitment.

6. Finally, we test social cognitive theories of adaptation that focus on individuals' perceptions as a major determinant of their coping reactions and stress reactions. Specifically, predispositions and situational appraisals (i.e. greater positive expectations and lower levels of deployment concerns) will continue to predict greater operational readiness (i.e., higher levels of well-being and commitment) even after controlling for the effects of social support and prior stressors.

Methodology

Sample

Participants were five hundred and thirty-two Canadian Forces personnel who were completing the basic peacekeepers predeployment training course at the Peace Support Training Centre, CFB Kingston. More specifically the sample included 425 males and 105 females, with a mean age of 37.27 years (SD = 7.24). 321 respondents were in the Army, 163 were in the Air Force and 47 were in the Navy, with 439 being regular force and 92 being reservists. Respondents had between 1 and 38 years of service, with the average number of years of service being 16.8 years (SD=7.41). 254 (47.7%) individuals were training to serve on their first peace support mission, while 268 (50.4%) had served on at least one prior mission, with the number of previous missions ranging from 1 to 6, and the average number of previous missions being 2. Of those respondents who had served on a previous mission, the average number of months since their last deployment was 61.3, or just over five years. 114 respondents in the predeployment sample were single, 364 were married or had common-law partners, 52 respondents were separated, divorced or widowed. 333 respondents reported having at least one child (average number of children 2) with 197 respondents reporting having no children. Detailed breakdowns of demographic groups in the predeployment sample are presented in Table 1.

Measures

The Predeployment Survey was designed to assess the impact of a variety of factors upon the psychological adaptation and readiness of CF personnel who are about to deploy on a peace support operation. More specifically, it measures individual differences, situational appraisals, as well as prior stressful events and social support. Predeployment outcome measures include self-reports of health and well-being, their commitment to the role of peacekeeper, as well as commitment to the CF. These measures from the Predeployment Survey are contained in Appendix A.

Individual difference measures

Hardiness

The 11 items assessing Hardiness were adapted from Bartone's Hardiness measure that was developed and validated on military samples (Bartone, 1999). Respondents answered each item on a 4-point scale (1=not at all true; 4=completely true). Hardiness scale items include statements such as "Most of my life is spent doing worthwhile things" and "Most days I enjoy life's challenges".

Dispositional Optimism: The Life Orientation Scale –Revised (LOT-R)

Dispositional Optimism was measured by the 7-item Life Orientation Measure–Revised (LOT-R), developed and validated by Scheier and Carver (1985). Items were answered on a 5-point scale, with 1 = strongly disagree and 5 = strongly agree. The LOT-R includes items such as "I am always optimistic about my future" and "Overall, I expect more good things than bad things to happen".

Extroversion

Extroversion, referring to an individual's tendency to be emotionally expressive and sociable, was assessed using an 8-item measure from the Big Five Inventory (John, 1990). Representative items include: "I see myself as someone who … generates enthusiasm" and "I see myself as someone who … is outgoing and sociable". Response options for each item ranged from 1=strongly disagree to 5=strongly agree.

Neuroticism

Neuroticism, an assessment of general emotional stability, also was assessed via eight items from the Big Five Inventory (John, 1990). Higher scores on items such as " I see myself as someone who … worries a lot" and "I see myself as someone who … gets nervous easily" indicates higher levels of neuroticism. Each item was answered on a 5-point scale (1=strongly disagree; 5=strongly agree).

Situational appraisals

Deployment expectations

The items contained in the positive expectations about the upcoming deployment were generated by statements from a previous focus group study of CF augmentees (Thompson & Gignac, 2002). Items included statements indicating the individual expected that they would be able to successfully deal with several issues while on deployment, ranging from day-to day occurrences to traumatic events. The seven items comprising this measure were responded to on a 1 – 5 scale (not at all successfully – very successfully).

Deployment concerns

Thirteen items assessed respondents' concerns about the upcoming deployment. Items for this measure also were generated from focus group responses (Thompson & Gignac, 2002) as well as questions from the Human Dimensions of Operations Survey, a large-scale survey instrument developed by the Director Human Resources Research and Development for the Human Dimensions of Operations (HDO) Project. The purpose of the HDO project is to integrate behavioral science research into operational effectiveness assessments within the CF (see Murphy & Farley, 2000, for further details concerning the HDO project). The items assessed soldiers' concerns about various aspects of the upcoming deployment and ranged from issues such as environmental conditions and family issues to threats to personal safety. Each item was answered on a 4-point scale, with 1 = not at all concerned and 4 = extremely concerned.

Prior stressors

The measure assessing prior deployment-related stressors is composed of 20 items that describe serious or life-threatening incidents that the person may have witnessed or experienced including serious injury, to witnessing someone die, to the handling human remains. This measure was also taken from the HDO Survey (Murphy & Farley, 2000).

Respondents were asked to indicate, using scale ranging from 0 (never) to 3 (4 or more times), the number of times they had experienced each event.

Social support

The 10 items contained in the measure of social support used in this research were also adapted from the HDO survey (see Murphy & Farley, 2000). These items first assessed whether support had been sought from members of the soldiers' social network, including parents, spouse or partner, children, other family members, closest friends, and deploying work colleagues, non-deploying work colleagues, and the family resource centre. Responses to this measure were yes, no, or not applicable. The measure then assessed the level of support received from each support source sought out by the respondents. Here participants indicated the support obtained on a 1 (very unsupportive) to 4 (very supportive) scale.

A review of these items revealed several problematic issues in that the sources of support sought were quite idiosyncratic. First, only109 of the 532 respondents (17.5% of the sample) indicated that they had used the family resource centre as a support source. As so few respondents pursued this support source, it was eliminated from further analyses. Further, between 23 – 77 percent of the sample either did not seek support from each of the remaining support sources (or the support source was not applicable, as in the case of single soldiers seeking support from a spouse). This posed a problem in that it meant that there were large amounts of missing data associated with the nine accompanying level of support items. Therefore, we created a new level of support variable that was a composite of the support sought and the support provided items. The new level support variable provided was coded in the following manner for each of the support sources: 1 – very unsupportive, 2 – unsupportive, 3 – support not sought 4– supportive 5 – very supportive.[1]

Indicators of operational readiness

Psychological and physical symptoms – The Signs Profile

The Signs Profile was used to assess self-reported psychological well-being and physical symptoms. The Signs is composed of 37 items, containing a subset of 20 items from the Hopkins Symptom Checklist (Derogitis, Lipman, Rickels, Uhlenhuth, & Covi ,1974). It measures four aspects of well-being: Depression-withdrawal (e.g., "feeling down or blue or depressed"); Hyper-alertness "e.g., "Taking medication to sleep or calm down"); Generalized Anxiety (e.g., nervousness or tenseness"); and Somatic Complaints (e.g., "general aches or pains" " upset stomach"). The Signs items are responded to on a 4-point scale which ranges from 0 = 'never experience' to 3 = 'experience very often'. Because

[1] We debated whether to assign those who had not sought support a value of 0 or a value of 3, the mid-range, on our composite measure of social support. A problem arose when we assigned the not sought support scores a score of 0, in that it lowered the overall mean of the variable. Thus it would appear not only that not all people sought support, but that even when support was sought, that support was characterized as unsupportive. This was not an accurate reflection of the data. Thus we chose to assign did not seek support a value of 3 so that the resulting score for the sample would reflect both that some people had not sought support, but also that when support was sought it was largely positive or very positive.

the factor structure of the Signs tends to vary, and because of the high correlations among the subscales, we have chosen to use only the total Signs score as an overall index of psychological and physical well-being.

Commitment to the role of peacekeeper

Items addressing soldiers' commitment to the role of peacekeeper were adapted from the organizational commitment measure developed by Allen and Meyer (1996), modified to be applicable to a military context. The 5 items assessing commitment to the role of peacekeeper included items such as "The role of peacekeeper has a great deal of meaning to me". Each of the five items was associated with five possible response options ranging from 1 (strongly disagree) to 5 (strongly agree).

Commitment to the CF

Items tapping soldiers' commitment to the Canadian Forces were similarly based on the Meyer and Allen commitment measure (Allen & Meyer, 1996). Items assess the degree to which soldiers were remaining in the Canadian Forces because of its meaning to them and a sense of belonging, as opposed to having few available occupational options. Commitment to the Canadian Forces was assessed via 29 items such as " The CF has a great deal of meaning to me", that were answered on a 5-point scale, where 1=strongly disagree and 5=strongly agree.

Procedure

The PSTC staff granted us access at the beginning of each Basic Peacekeeping course to make a general call for subject participation. The DRDC -Toronto representative introduced herself and gave a brief introduction about DRDC-Toronto. She then described the purpose of the Stress and Coping Research Group and the deployment adaptation research initiative in particular. It was made clear to students that their participation in the study was completely voluntary and confidential, that the research initiative was independent of the PTSC. The experimenter then answered any questions students had about the research, the Stress and Coping Group and DRDC-Toronto. Interested students were able to ask further questions and pick up a copy of the questionnaire from the experimenter as they left the classroom. The questionnaire included a written cover page reiterating the purpose of the research and a consent form, as well as the package of measures.

Respondents completed the survey that evening in a common room, where the research assistant was available to answer questions. Alternatively participants could complete the survey individually in their barracks room. Additional questions could be addressed via telephone or e-mail to the research assistant or to the principal experimenter. Questionnaires could be returned to the DRDC –Toronto research assistant the following day or returned throughout the course to a locked DRDC-Toronto drop box located in the student common room of the PSTC. Only the DRDC research assistant had a key to access the drop box.

Because the predeployment survey is intended as a first phase of a longitudinal data collection effort, a separate sheet of paper was included at the end of the survey package to solicit respondents' ongoing participation in the subsequent deployment and postdeployment phases of

the study. This consent to be contacted for future questionnaires requested both the respondent's deployment address and/or permanent address.

Results

Overview

Five sets of analyses were conducted in order to explore the relation of individual difference, situational appraisals, social support and prior stressors on indicators of operational readiness. Reliability analyses were initially conducted to verify that the items on a measure assess the same construct or phenomenon. In reliability analyses, achieving a high Cronbach's alpha value (i.e., a value reflecting the overall internal consistency of the measure) and high values on item-total correlations (i.e. measuring the relation of each item to the total measure), and the alpha-if-item-deleted are particularly important. Only measures achieving a reliability coefficient above .75 were considered internally consistent enough for further analyses (Pedhazur, & Pedhazur Schmelkin, 1991).

Descriptive statistics were then computed in order to get a sense of the average level of each of the variables assessed within this sample. Standard deviations provided a sense of the average range of values around the mean. These measures are not clinically normed, so that it is not possible to compare the obtained means and standard deviations for this sample to those of clinical populations. However, the means and standard deviations of respondents were reviewed to get a sense of whether they were generally above or below the mid-point of the scale, and whether the scores were the highly consistent (e.g., low standard deviation), relative to the scale used in each measure.

We next conducted Pearson correlations to assess the overall association between each of the variables. In correlational analyses, higher numbers indicate a higher degree of association or relatedness between variables. Correlations should also produce significant probability (or *p*) values. However, correlations can be too high, indicating that the two variables that were hypothesized to de distinct are actually measuring the same construct and thus are redundant. Large sample sizes can also influence probability values, so that even relatively modest correlations can still produce statistically significant probability values. Thus, we looked at the pattern of relations for variables within each of our major groupings of variables, i.e., predispositions, situational appraisals, moderators and adaptational outcomes, to determine if there were redundancies among the variables assessed within each grouping. We also looked at the relations between variables in the major groupings (e.g., predispositions with situational appraisals, etc.) as a preliminary test of association among the variables on our groupings of interest. Correlations below .20 indicated too little association to be of relevance, even if the probability indicated a statistically significant difference, and correlations between variables that were above .70 were deemed to have too great a redundancy, as this means they have at least approximately 50% shared variance.

One-way Analyses of Variance (ANOVAs) were then conducted to determine if there were differences in the relations among variables for major demographic groups. More specifically, we conducted ANOVAs to determine if differences in any of the individual difference, situational appraisals, social support, prior stressors, symptoms, or commitment measures were associated with respondents' gender, marital status, rank group, prior peacekeeping experience, deployment

mission theatre, regular versus reserve force status, and elemental command. In these analyses, we looked for statistically significant *t* values when two groups were compared, and statistically significant *F* values if more than two groups were compared. In the latter case post-hoc comparisons allowed for a determination of the particular groups that were statistically different.

Finally, multiple regression techniques were used to examine the degree to which individual differences, situational appraisals, prior stressors, and social support predict three outcome variables: psychological well-being, commitment to peacekeeping, and commitment to the CF. Multiple regression builds on the concept of basic correlational analysis in that it allows researchers to determine the unique association between a dependent variable and a predictor variable, after partialling out the variance of other known correlates (Pedhazur, & Pedhazur Schmelkin, 1991). For example, in these analyses, the unique associations of each individual difference will be examined (after controlling for each of the other individual differences), as will the unique associations between well-being and each individual difference (after controlling for the effects of each remaining individual difference). Parallel analyses will examine the unique associations between individual differences when predicting commitment to the CF and commitment to a peacekeeping role.

However, we also wish to test important aspects of social cognitive theory that suggests people's perceptions are the fundamental determinants of their stress reactions. Moreover, the individual difference literature suggests the primacy of personality measures, in that they are assumed to be the relatively stable factors that influence situational appraisals. Together these individual differences in personality and situational appraisals are assumed to play a major role in psychological outcomes such as coping efforts and the magnitude of stress reactions.

A hierarchical regression forced-entry procedure allows us to reflect and test these notions. Accordingly, in this procedure, the four personality dimensions will be entered in Step 1 of the regression, deployment expectations and deployment concerns will be entered in Step 2, with prior stressors and social support entered on the third step of the equation. For each of the three steps, two main determinations are made: (1) do the variables entered into each step of the equation explain a significant amount of variance in the dependent variable? and (2) which variables have a statistically significant, predictive, and unique association with the dependent variable? A total of three separate regression analyses will be performed, one for each of the three dependent variables (i.e., psychological well-being, commitment to the CF, and commitment to peacekeeping).

Reliability Analyses

Individual difference measures

Tables 2 through 5 present the reliability results for each of the individual difference variables assessed in the Predeployment Survey. Hardiness produced a Cronbach's alpha of .78, with item-total correlations ranging from .11 - 64 (Table 2). Dispositional Optimism (Table 3) was also reliable with an alpha of .79, and item-total correlations ranging from .27 to .68. Neuroticism (Table 4) produced an alpha value of .79, and item-total correlations between .40 and .61. Finally the reliability of the Extroversion measure was excellent, with a Cronbach's alpha of .84 and item-total correlations ranging from .43 to .70 (see Table 5).

Situational appraisals

Tables 6 and 7 present the results of the reliability analyses of the situational appraisal indices, the Deployment Expectations and the Deployment Concerns measures. As Table 6 shows, Deployment Expectations has excellent reliability associated with it, with a Cronbach's alpha of .84, and item-total correlations ranging from .53 to .64. Deployment concerns (Table 7) was also an extremely reliable measure, yielding an alpha value of .88, with item-total correlations ranging from .43 - .67.

Social support

The social support measure is a composite score reflecting the size of the social network multiplied by the quality of the social support provided by that social network. Unlike the other predeployment measures each social support item is not expected to assess the same underlying construct. That is, there is no a priori reason to assume that the provision of social support by one source should be associated with the provision of support by other sources, nor that high quality of support from one source will mean that high quality support would be provided by other sources. For this reason reliability analyses were not conducted on the items assessing social support.

Prior stressors

Similar to social support, we did not expect that experiencing one type of stressor would be associated with experiencing other types of stressors. Thus, reliability analyses were not conducted on the measure of prior stressors.

Operational readiness indicators

Three measures assessed outcomes assumed to be associated with operational readiness: Physical and psychological symptoms assessed by the Signs measure, Commitment to Peacekeeping, and Commitment to the Canadian Forces. Results of reliability analyses for these measures are presented in Tables 10-12. These results indicate that the Signs measure (see Table 8) was highly reliable, with a Cronbach's alpha of .89 and item-total correlations between .09 and .61. The Commitment to Peacekeeping measure was reliable, with a Cronbach's alpha of .77, and item-total correlations ranging between .46 and .62. (see Table 9). Finally, the Commitment to the Canadian Forces measure, presented in Table 10, produced an acceptable Cronbach's alpha of .90, with item-total correlations ranging between .09 and .75. (see Table 10).

Descriptive analyses

Having established the reliability of the measures in the Predeployment Survey, we next reviewed the descriptive statistics associated with each of the measures. Here we looked at the mean scores and the standard deviations for the sample on each measures, in order to determine whether the sample, as a whole, tended to be high or low on each measure. We also examined these statistics in order to determine the presence of floor or ceiling effects that occur when means are extremely high (or low) and there is little variability in participants' responses.

Table 11 presents the descriptive results for each of the measures for the full sample of respondents. Average scores are presented, so that values reflect the range of response items for each scale (e.g., 1 – not at all through 4- a great deal), rather than total scale scores.

Individual differences

Hardiness

Hardiness scores could range from 1-4. The sample mean associated with this measure was 2.98, with a standard deviation of .40. This result suggests that the majority of respondents indicated that they had a fairly high level of hardiness. Dispositional optimism was assessed on a 1-5 scale. Results here also indicate that the sample tended to endorse statements indicating a higher level of dispositional optimism, with a mean of 3.64, and a standard deviation of .57. Neuroticism and Extroversion were both assessed using a 5-point scale. Mean results for these measures indicated that these soldiers scored above the average for Extroversion (M= 3.39, SD = .65). They tended to score just below the mean for Neuroticism, with a mean of 2.34, and a standard deviation of .55.

Situational appraisals

Descriptive results suggest that the deployment expectations of these soldiers were quite high, with a mean score of 4.17 out of a possible score of 5 (SD = .50). Not surprisingly then, deployment concerns tended to be low for this sample. The mean score on this measure was 1.91, and the standard deviation was .56.

Social support and prior stressors

Results of descriptive analyses for social support and prior stressors are also presented in Table 11. As the table shows, these soldiers had experienced very few of the stressors listed in the stress scale. The sample mean was only .45, and the standard deviation was .43. As noted the social support variable used in this research is a composite of the number of sources of support sought and the level of support received from these sources. As Table 11 shows, the mean level of reported support from the possible support sources was 3.76, out of a possible 5. The standard deviation was .47. These values reflect that support seeking tended to be idiosyncratic, that is, the choice of source of support was quite individual, but when it was sought, the response from the source was most often characterized as supportive or very supportive.

Operational readiness

As Table 11 shows these soldiers reported very low levels of the symptoms listed on the Signs, with a mean of .33, and a standard deviation of .28. The mean scores of the two commitment measures indicated that this sample was moderately highly committed to both the role of peacekeeper (M = 3.72, SD = .73) and the Canadian Forces (M = 3.17, SD = .52).

Demographic group differences

We next looked to determine if differences existed on any of the assessed variables, based on any of the major demographic categories assessed in this study. We selected demographic categories based on the sample size in each of the groups (e.g., some subgroups were too small to perform statistical analyses and so were collapsed into larger groups), and on their relevance to operational readiness. Based on these criteria we performed one-way analyses of variance (ANOVAs) on each of the following demographic groups, for each of our major variables: 1) Gender (Male/Female), 2) Marital Status (Single/Married/Other (i.e., Separated, Divorced, or Widowed)), 3) Rank (Officer/Non-commissioned member), 4) Previous Peacekeeping Experience (yes or experienced peacekeeper/no or novice), 5) Mission Area, 6) Regular Force/Reserve, and 7) Command Element (Army/Navy/Airforce).

ANOVA is largely robust to departures from normality, although the data on which it is used should be symmetric. The groups should come from populations with equal variances. To test this assumption, we used Levene's homogeneity-of-variance test. Where these results indicated that significant group differences existed (i.e., the groups had heterogeneous variances), we conducted Welch's tests, to test for the equality of group means. This statistic is preferable to the F statistic when the assumption of equal variances does not hold (SPSS, 2004). Moreover, due to the number of comparisons, we set a conservative alpha level of .0001, to minimize the possibility of a Type 1 error (i.e., an increased probability of rejecting the null hypothesis when it is true, that is accepting a statistically significant difference where none actually exists).

Gender

ANOVA results for gender, presented in Table 12, indicate that men and women differed on few of the measures assessed in the Predeployment Survey. Men and women did not differ on mean levels of any of the individual difference measures assessed (all p's ns). Men tended to report more positive deployment expectations than did women ($F(1, 524) = 18.32$, $p < .0001$, $M's = 4.22$ vs., 3.99, for men and women), although the two sexes did not differ in terms of deployment concerns. Men reported more prior stress experiences (Welch's $F(1, 192) = 41.67$, $p < .0001$, $M = .50$ for men and .24 for women). Men and women did not differ in terms of the amount of perceived support they had concerning the upcoming deployment (Welch's $F < 1.00$, ns). In terms of our indicators of operational readiness, men and women reported similar levels of symptoms (Welch's $F(1, 128) = 10.39$, ns). The sexes also did not differ in terms of either their commitment to the role of peacekeeper ($F(1, 522) < 1.00$, ns) or in their commitment to the CF ($F(1,523) < 1.0$, ns).

Marital status

Marital Status was coded as Single, Married or Other, (i.e., including soldiers who were separated, divorced or widowed, as each of these groups had few respondents). As Table 13, which presents the ANOVA results for marital status indicates, these groups did not differ on any of the Predeployment Survey variables, except for Commitment to the role of peacekeeper (Welch's $F(2, 228) = 2.107$, $p < .001$, $M's = 3.92$, 3.66, and 3.73, for single, married, and other status, respectively). In this case, Tukey post hoc comparisons indicated that single augmentees reported higher levels of peacekeeping commitment than did married respondents ($p = .002$).

Rank

ANOVA results for rank (Officer/Non-commissioned Members Personnel) are presented in Table 14, and indicate that officers did not differ from non-commissioned members in terms of any of the individual difference variables, situational appraisals, social support or prior stressors. The sample also did not differ by rank grouping with respect to our outcome variables.

Prior peacekeeping experience

For these analyses, we divided our sample into those who had prior peacekeeping experience, our experienced group, and those who were about to deploy on their first peace support mission, our novice group. Table 15 summarizes the ANOVAs for these demographic groups. The groups differed only on predeployment expectations ($F(1, 516)=22.58$, $p < .0001$), with experienced peacekeepers reporting significantly higher positive expectations concerning the upcoming deployment (M of 4.27 for experienced and 4.07 for novice peacekeepers). As might also be expected, soldiers with prior peacekeeping experience reported more stressors than novice peacekeepers ($F(1, 514)= 55.85$, $p < .0001$, $M's = .57$ and .30 for experienced and novice peacekeepers, respectively).

Regular versus reserve force status

ANOVAS conducted on the demographic groups of regular versus reserve force, presented in Table 16, yielded only two statistically significant differences. Both of these differences emerged in terms of the commitment variables. Reserve force members reported significantly higher levels of commitment to the role of peacekeeper (Welch's $F (1, 180) = 17.37$, $p < .0001$), as well as significantly higher commitment to the CF than did regular force members ($F (1, 524) = 18.63$, $p < .0001$). Mean scores were 3.67 and 3.95, concerning self-reported commitment to the role of peacekeeper, for regular force and reservists, respectively. The mean score for commitment to the CF for regular force members was 3.13 and 3.38 for reservists.

Elemental command

The augmentees in this research primarily are drawn from the Army, but also from the Naval and Air Commands. We conducted ANOVAs to determine if these groups differed with respect to any of the variables measured in this research. As Table 17 indicates, no significant differences emerged based on the elemental command of these respondents.

Mission theatre

Table 18 summarizes the results of ANOVA analyses with respect to deployment mission theatre. As noted in the summary of the sample, the vast majority of these military personnel were deploying to missions either in the former Yugoslavia or to mission areas located in the Middle East. As the results show, deployment mission area was unrelated to

any of the individual difference variables, situational appraisals, social support, prior stressors, or to any of our indicators of operational readiness.

Summary

Overall, our sample did not vary on any of our measures based on major demographic groupings. Where differences did appear, they were largely in line with previous literature, e.g., personnel with previous peacekeeping experience tended to have more positive predeployment expectations than did personnel who were about to deploy on a peacekeeping mission for the first time. We did not see some differences that have traditionally been seen in the literature. For instance in this sample, females did not report higher levels of symptoms. In cases where statistically significant group differences did emerge, the absolute magnitude of these differences, i.e., the psychological significance or relevance, tended to be quite small. For instance, although males reported significantly higher numbers of prior stressors than did females, as did experienced versus novice peacekeepers, overall very few stressors were reported by this sample. Similarly, although regular force and reserve personnel reported different level of commitment, both with respect to the role of peacekeeper and in terms of commitment to the CF, the overall magnitude of these differences was small. Thus, we decided not to factor in demographic groups in the subsequent analyses.

Correlational analyses

Correlational analyses were next conducted to assess the overall association between variables and are presented in Table 19. As noted earlier, due to the large sample size probability values may be statistically significant for correlations that are not very large in magnitude. Hence, we will only pursue correlations greater than .20, and p's < .0001.

As expected, the measures we assumed to be associated with psychological resiliency were positively correlated with each other (Hardiness, Optimism r = .48; Hardiness, Extroversion r = .37; Optimism, Extroversion r = .25). Although positively correlated with each other, it is important to note that Hardiness and Optimism share only 23 percent of their variance, and so may still be treated as distinct, rather than overlapping or redundant constructs. Also as anticipated, these three variables were negatively associated with Neuroticism, which we assume to be associated with psychological vulnerability (r's = -.36, -.51, and -.32, for Neuroticism with Hardiness, Optimism, and Extroversion, respectively).

Also confirming hypotheses, Hardiness, Optimism, and Extroversion were positively associated with more positive expectations concerning the upcoming deployment (r's = .37, .34, and .29 for Hardiness, Optimism, and Extroversion, respectively). Interestingly, deployment concerns were unrelated to Hardiness (r = -.14) or Extroversion (r = -.09), but showed a slight negative relation to Optimism (r = -.20,). As expected higher levels of Neuroticism were associated with holding less positive expectations concerning the upcoming deployment (r = -.42). As was also expected, concerns about the upcoming deployment showed a positive relation to Neuroticism (r = .29). It is interesting to note that individuals positive expectations were only moderately negatively associated with their concerns about the upcoming deployment (r = -.41), instead of being mirror opposites of each other. This suggests that it is possible for soldiers to hold generally positive expectations, but to also harbour concerns about the upcoming deployment.

As anticipated, number of prior stressors was unrelated to Hardiness (r = .08), Optimism (r = -.02), Extroversion (r = .08) and Neuroticism (r =-.13). Interestingly, number of prior stressors was unrelated to deployment expectations (r = .18), or to deployment concerns (r = -.04). Perceptions of level of social support were not associated with Hardiness (r = .13), Optimism (r = .13), Extroversion (r = .11) or Neuroticism (r = - .08); the results concerning the relation between social support and Optimism or support and Extroversion were not consistent with previous literature, or our hypotheses. Perceptions of social support were also unrelated to deployment expectations (r = .09) and to deployment concerns (r = .02). Number of prior stressors was unrelated to level of support reported by these soldiers (r = -.05).

We now turn our attention to the relationships between individual differences, situational appraisals, prior stressors, social support, and our operational readiness variables of symptoms, commitment to the role of peacekeeper, and commitment to the Canadian Forces. We first examine the interrelationship of our three measures of deployment readiness. As Table 19 illustrates, symptoms were unrelated related to levels of commitment to the role of peacekeeper (r -.13), but were somewhat related to commitment to the CF (r = -.21). Finally, as anticipated, organizational commitment to the CF was significantly and positively related to commitment to the role of peacekeeper (r = .38).

As expected Hardiness, Optimism and Extroversion tended to be negatively related to reports of symptoms (r's -.21, -.38, & -.17), although Hardiness just surpassed, and Extroversion failed to reach, our cutoff criteria of r =.20. Confirming our hypotheses, Neuroticism was significantly and positively related to reporting more symptoms on the Signs measure (r = .43). Further, positive deployment expectations were somewhat negatively (r = -.21), and deployment concerns were positively (r = .31) associated with more symptoms. Contrary to most of the prior deployment stress literature, however, neither number of prior stressors reported, nor level of social support, were associated with symptoms (r's = .01 and .10, respectively).

In general, our measures of resiliency were positively related to the two organizational commitment measures. Hardiness was positively associated with both Commitment to the role of Peacekeeper (r = .34), and CF Commitment (r = .43). Optimism was positively related to CF Commitment (r = .39), but, unexpectedly, not to commitment to the role of peacekeeper (r = .14). Extroversion was associated with higher commitment to the role of peacekeeper (r = .24), although the correlation between extroversion and commitment to the CF just failed to reach our cutoff criteria (r = .19). Interestingly, Neuroticism was largely unrelated to commitment to the role of peacekeeper (r = -.13), and just reached our cutoff criteria with respect to commitment to the CF (r = .20).

Positive expectations concerning the upcoming deployment were positively associated with both commitment to the role of peacekeeper (r = .25), and to the CF (r = .26). Deployment concerns, on the other hand, were related to lower levels of commitment to the CF (r = -.32), but were unrelated to commitment to the role of peacekeeper (r = -.17). Number of prior stressors was unrelated to either commitment to the role of peacekeeper (r = .08) or to commitment to the CF (r = -.02). Finally, although level of support was unrelated to commitment to the role of peacekeeper (r = 08), it was positively associated with commitment to the CF (r = .21).

Hierarchical regressions

Hierarchical regression was used to determine impact of individual differences, situation specific perceptions, social support and prior stressors on predeployment operational readiness variables (health and well-being and two measures of commitment). As noted earlier, hierarchical regression allows for the assigning of groups of variables on separate steps in the analysis, thereby allowing tests to determine if, for instance, perceptions of social support and prior life events contribute to motivation and well-being above and beyond the influence of personality and situational appraisals. It also allows for the examination of the unique effects of each variable contained on a particular step of the analysis (e.g., variables within the individual difference grouping).

In the first regression, physical and psychological well-being (as measured by the Signs) was the dependent variable. In Step 1, Hardiness, Optimism, Neuroticism, and Extroversion were entered into the regression and explained a significant amount of the variance in psychological well-being, $F_{change}(4,512) = 36.794$, $p < .0001$. As shown in Table 20, an examination of the standardized Beta values showed that both Neuroticism and Optimism uniquely predicted well-being; those who were more neurotic had lower levels of well-being, that is, they reported higher levels of symptoms, while those who were more optimistic had higher levels of well-being (i.e., reported fewer symptoms). In Step 2, deployment expectations and deployment concerns were entered into the equation and added a significant amount of variance to the prediction of well-being, $F_{change}(2,510) = 12.869$, $p < .0001$. The Beta values showed that, after controlling for the personality factors entered in Step 1, as well as deployment expectations, only the deployment concerns variable was significantly predictive of psychological well-being, such that the more concerns they had, the poorer their well-being (i.e., they reported more symptoms) (see Table20). In Step 3, perceived social support and prior military stressors were entered into the equation. These variables added a significant amount of variance to the prediction of psychological well-being, $F_{change}(2,508) = 5.616$, $p < .001$. The Beta values showed that, after controlling for the variables entered in Steps 1 and 2, only prior military stressors was a significant predictor of well-being (see Table 19), in that higher numbers of stressors were associated with lower well-being. The final regression equation was statistically significant, $F(8,508) = 24.62$, $p < .0001$ and accounted for 27 percent of the variance in well-being.

In the second regression, commitment to the role of peacekeeper was the dependent variable. In Step 1, Hardiness, Optimism, Neuroticism, and Extroversion were entered into the regression and explained a significant amount of the variance in commitment to a peacekeeping role, $F_{change}(4,512) = 19.291$, $p < .0001$. An examination of the standardized Beta values showed that here both Hardiness and Extroversion uniquely predicted peacekeeping commitment (see Table 21); those who were more extroverted or hardy expressed higher levels of commitment to the role of peacekeeper. In Step 2, deployment expectations and deployment concerns were entered into the equation and added a significant amount of variance to the prediction of peacekeeping commitment, $F_{change}(2,510) = 8.535$, $p < .0001$. The Beta values showed that, after controlling for the personality factors entered into the equation in Step 1, both variables uniquely predicted commitment to a peacekeeping role; the more positive expectations the member had, or the fewer negative concerns he or she had, the more committed they were to role of peacekeeping (see Table 21). Entering perceived social support and prior military stressors into the equation in Step 3 did not add a significant amount of variance to the prediction of commitment to the peacekeeping role, $F_{change}(2,508) = 1.661$, ns. The final regression equation was statistically significant, $F(8,508) = 12.51$, $p < .0001$. Together, personality, and situational appraisals accounted for 15 percent of the variance in commitment to the role of peacekeeper.

In the third regression, Commitment to the CF was the dependent variable. In Step 1, Hardiness, Optimism, Neuroticism, and Extroversion were entered into the regression and explained a significant amount of the variance in CF commitment, $F_{change}(4,512) = 37.481$, $p < .0001$. An examination of the standardized Beta values showed that, in this case, both Hardiness and Optimism uniquely predicted Commitment to the CF (see Table 22). Those members who were more hardy or optimistic reported higher levels of commitment to the Canadian Forces. In Step 2, deployment expectations and deployment concerns were entered into the equation and added a significant amount of variance to the prediction of CF Commitment, $F_{change}(2,510) = 22.542$, $p < .0001$. The Beta values showed that, after controlling for the personality factors entered in Step 1, only deployment concerns were significantly predictive of CF Commitment: the more concerns people had, the lower their commitment to the CF (see Table 22). Entering perceived social support and prior military stressors into the equation in Step 3 accounted for a significant amount of variance in the prediction of CF commitment, $F_{change}(2,508) = 9.636$, $p < .0001$. Examination of the Betas showed only perceived social support uniquely predicted commitment to the CF, with personnel who reported higher levels of social support had higher commitment to the CF. The final regression equation was statistically significant, $F(8,508) = 29.206$, $p < .0001$, and the predictor variables (e.g., personality, appraisals etc.,) accounted for 31 percent of the variance in commitment to the CF.

Discussion

This research investigated the influence of individual differences in personality, positive and negative situational appraisals concerning an upcoming deployment, prior military stressors, and social support on the operational readiness of a group of Canadian Forces personnel training as augmentees for a peace support mission. This research is unique in military research in Canada in many respects. First, it assesses both positive and negative perceptions at both the level of individual differences in personality and in terms of situational appraisals. Second, we have attempted to develop outcome measures beyond self-reports of symptoms, to include other indicators of operational readiness. Third, we elucidate the experience of CF augmentees to peace support missions, a group that has not been a focus of research in Canada, or indeed in other countries military research. Finally, this study also represents the first phase of a program of longitudinal research, designed to assess the effects of predeployment factors and deployment events on post-deployment adaptation.

Exploratory analyses assessed whether the level of the individual differences in personality, situational appraisals, prior stressors, and social support differed among the major demographic groups in this sample of CF personnel. Results indicated that, overall, the demographic groups did not differ in terms of hardiness, optimism, extroversion, or neuroticism, deployment expectations or concerns, or in terms of prior stressors experienced or level of social support. Where differences did appear, they were largely in line with previous literature. For instance, military personnel with previous peacekeeping experience tended to have more positive predeployment expectations than did personnel who were about to deploy on a peacekeeping mission for the first time (see Wright, Huffman, & Adler, 2002 for similar results with American peacekeepers).

In cases where statistically significant group differences did emerge, the absolute magnitude of these differences, i.e., the psychological significance or relevance, tended to be quite small. For instance, although experienced peacekeepers had significantly more positive predeployment expectations than did novices, overall the expectations of both groups was quite positive. Similarly, although males reported significantly higher numbers of prior stressors than did females, as did experienced versus novice peacekeepers, overall very few stressors were reported by this sample. Similarly, although regular force and reserve personnel reported different level of commitment, both with respect to the role of peacekeeper and in terms of commitment to the CF, the overall magnitude of these differences was small.

Interestingly, we did not see some differences that have traditionally been seen in the literature. For example, in this sample women did not report higher levels of somatic symptoms than men did. It is not immediately clear why this may have been, although the fact that very few symptoms were reported by any of our sample, i.e., a floor effect, may explain this result. Similarly, although the literature suggested that women tend to derive more benefits from social support (e.g., Leiter et al., 1994); however, in the present research, males and females did not differ with respect to mean level of social support. This finding may also be a result of the composite measure that we used in this research. Specifically, we did not ask the extent to which the social support received was beneficial.

In general, results of correlational analyses confirmed the majority of our hypotheses. First, personality measures anticipated to reflect greater psychological resiliency, Hardiness, Dispositional Optimism, and Extroversion, were positively related to each other and negatively

related to Neuroticism. Also as expected, Hardiness, Optimism and Extroversion were positively related to positive expectations and negatively related to concerns about the upcoming deployment. Conversely, Neuroticism was negatively associated with predeployment expectations and positively related to concerns about the upcoming deployment.

Based on some prior research we had expected that Hardiness, Optimism and, in particular, Extroversion would be associated with higher levels of social support, while Neuroticism would show the opposite pattern of results. This hypothesis was not supported however. Rather, none of our personality measures were associated with social support. Moreover, hypotheses concerning the lack of relation between personality and prior military stressors were confirmed. Prior stressors were also unexpectedly not related to either positive expectations or level of concern about the upcoming deployment.

Our results concerning the relation of personality to the indicators of operational readiness were also generally confirmed. That is, Optimism, and Neuroticism were moderately related to self-reports of symptoms, with Hardiness also showing results in the hypothesized direction. Extroversion, however, did not show much relation to well-being (i.e., low levels of self-reported symptoms). Concerns about the upcoming deployment showed the anticipated relation to predeployment concerns, and the results for expectations also tended to confirm our hypotheses, although these results were not as strong as was the case for concerns. Neither prior stressors, nor level of social support were related to well-being. As expected, Hardiness was positively related to commitment to peacekeeping and commitment to the CF. Optimism was positively related to commitment to the CF, and extroversion was positively related to commitment to the role of peacekeeper. Neuroticism was not related to either measure of commitment. Expectations were moderately and positively related to both measures of commitment, while concerns were related only to lower levels of commitment to the CF. The experience of prior stressors was negatively related to commitment to the CF, but interestingly was unrelated to level of commitment to the role of peacekeepers. Finally, although level of social support was moderately and positively associated with commitment to the CF, it was unrelated to commitment to the role of peacekeeper.

Hierarchical regressions were used to assess applicability of social cognitive theories of adaptation to the realm of operational readiness for peace support operations, testing the primacy of individual differences in personality and situational appraisals, and which variables within each step were uniquely associated with each indicator of operational readiness. Results of three hierarchical regressions confirmed that individual differences and situational appraisals consistently predicted each of the three indicators of operational readiness. Specifically, higher dispositional optimism, lower neuroticism, fewer deployment concerns, and higher prior military stressors were associated with fewer symptoms, that is higher levels of well-being for these augmentees. Higher commitment to the role of peacekeeper was predicted by higher psychological hardiness, higher extroversion, and by more positive expectations and fewer deployment concerns. Neither social support nor prior military stressors predicted commitment to the role of peacekeeper. Higher levels of psychological hardiness and dispositional optimism, more concerns about the upcoming deployment, and higher levels of social support predicted higher levels of commitment to the CF.

Although the assessed variables were usually related to psychological readiness to deploy, different indicators of psychological resiliency showed particular relationships to different indicators of readiness. Dispositional Optimism and Hardiness were each uniquely associated with two of the three indicators of operational readiness, while Extroversion and Neuroticism were

each associated with one of the dependent variables. Thus, the present results also reveal the importance of assessing multiple indicators of psychological resiliency.

Moreover, although Neuroticism was related to psychological well-being, our results showed that it was not associated in either commitment to the role of peacekeeper, or to commitment to the CF. Therefore, while Neuroticism may be associated with how people feel about upcoming events and challenges, it may have less relation to how they expect to perform or how they actually behave. Additional research is required to test this hypothesis more directly, and to determine if the short term Neuroticism-well-being relation revealed here translates into lower well-being, or indeed to motivational or performance decrements in the long-term, or with other indicators of operational readiness/effectiveness.

Although our variables were associated with indicators of operational readiness, in general the results were less strong for respondents' commitment to the role of peacekeeper. For instance, the overall amount of variance in peacekeeping commitment accounted for by our predictor variables was 15 percent, versus 27 and 31 percent of the variance for symptoms and CF commitment, respectively. Although these results may suggest that other factors play a role in commitment to the role of peacekeeper, it is of note that this scale had only 5 items and produced a lower, although still acceptable alpha value (.78). Thus, at this point the reason for this lower amount of variance accounted for in terms of commitment to peacekeeping remains unclear. There is no doubt that commitment to the role of peacekeeper should be an important indicator of operational readiness. For that reason, we would recommend that future research in this area continue the development of a measure that assesses this construct.

The effects of prior stressful events and social support on operational readiness were also explored in the research. We used measures from the Human Dimensions of Operations Project to assess prior stressful events and level of social support in order to facilitate comparisons between this sample of augmentees and prior data collected from formed units (e.g., Murphy & Farley, 2000). Stressful events and social support proved to be less consistently associated with our measures of operational readiness. As noted above, results of hierarchical regressions indicated that only prior military stressors was related to well-being, and social support was related to commitment to the CF. Neither stressors nor social support was related to commitment to the role of peacekeeper.

One reason for the result concerning the effects of prior stressors may be that very few of our augmentees had experienced the events listed on the prior stressful events measure used in this research. Recall, the mean level of prior stressful events was .45, with a majority of the events not having been experienced by any of our participants. Thus, there was a floor effect for prior stressful events in this research. Recent research on the effects of prior experiences on military stress outcomes has expanded the list of stressful events to include those experienced outside of military life, for instance, experiencing or witnessing serious accidents or injuries from car accidents (e.g., Bolton et al., 2001; Martin et al., 2000). Indeed, the research in this area has suggested that the majority of stressful life events do not occur to military personnel within the context of their military careers, and that these stressful non-military events have a significant impact on stress-related outcomes for military (Bolton et al., 2001; Martin et al., 2001). Nonetheless, Canadian research does show that peacekeepers on the first rotation into many recent mission areas face more intense stressors, including those associated with combat (Lamerson & Kelloway, 1996). The participants in the present study were being deployed to relatively stable missions (although in some cases hostilities could resume). Thus, the more important stressors for these peacekeepers may well be chronic, lower intensity stressors described by Adler et al. (2003).

In general then, we would recommend that future research in this area using CF samples expand the nature of stressors assessed, also including civilian, in addition to military stressors.

The social support measure was particular challenging to utilize in this research. The idiosyncratic nature of support sources sought out meant that we dealt with a great deal of missing data on this measure. Although we attempted to address this issue by developing a composite measure of social support, we are not completely comfortable with this solution. Nonetheless our results show that, despite the idiosyncratic nature of support seeking in this group of respondents, when a support source was sought, the quality of the support provided was quite high.

Past research has shown that military personnel rate informal sources of support, that is family and friends, as most important (Leiter et al., 1994; Solomon et al., 1991). Our own hypothesis that augmentees would be lacking in both formal and informal organizational sources of support was difficult to assess in this research as the social support measure used involved only one organizational support source, the family resource centre, a support source our respondents did not utilize. Thus, future research exploring the role of social support might expand the number of organizational sources of support assessed. With respect to the use of the family resource centre, future research might seek to determine the basis of this result. For instance, does it reflect a lack of services that are perceived to be relevant, a lack of services for those deploying as augmentees or a lack of knowledge of services available to CF personnel in general?

On the other hand, our results may accurately reflect that the effects of social support on indices of operational readiness simply do not appear during the predeployment phase for augmentees. The effects of lack of support may become only apparent during the deployment phase. Moreover, social support may also be a continuing factor in post-deployment adaptation where isolation from people who have been through the experience may be more apparent both to regular force and reservist augmentees.

Our results also showed that these military personnel reported very low level of psychological and physical symptoms. The mean score was .33 indicating that respondents had either not experienced any of the symptoms or had experienced them only once in the past two months. This result might seem to be surprising considering that they are training for operations that take them away from home for six months. One explanation of this result is that military personnel largely operate in a culture where toughness is valued, and so may be less likely to report symptoms (Thompson & Pastò, 2003). Moreover, although participants were assured that their responses to the predeployment questionnaire were confidential, some of our participants may have had concerns that admitting to symptoms might reflect poorly on their predeployment training. On the other hand, it is also important to note that the majority of this group had volunteered to deploy on a peace support mission, and thus were more likely to be looking forward to the experience. Moreover, the majority of these augmentees were deploying to long-standing mission areas, ones that are largely considered to be stable. These factors might mean that these individuals were looking forward to their deployments, and simply were not experiencing many symptoms.

This research also has implications for our conceptual model of psychological adaptation to peace support operations (Thompson & Gignac, 2001). Initial support for the model is apparent in that individual differences and situational appraisals were consistently related to the predeployment operational readiness of augmentees. These results also suggest potential modifications of the model, at least as it applies to augmentees. For instance, demographic variables, which the model specifies as having effects on operational readiness, did not appear to be a major factor in terms of the measures of operational readiness assessed here. Moreover, organizational factors, which the

model suggests would be a factor during predeployment, were not fully explored in this research. Future research may ask specifically for support from CO of home unit, as well as contact with those personnel of the CF responsible for administrative aspects of deploying and joining formed units. It must be remembered however, that the conceptual model explores psychological adaptation across a deployment. It may be that these organizational supports become more of a factor during the deployment and post-deployment phases for augmentees.

In sum then, this research contributes to our understanding of psychological adaptation processes in the context of peace support operations in several ways. First, it identifies several individual differences that appear to provide a significant buffering effect on the stress associated with deployments, *in addition to* exploring the factors associated with vulnerability to the negative effects and consequences of military operations. Indeed, we deliberately use the term adaptation, and we measure the factors that ameliorate *or* attenuate the effects of peace support operation stress, factors that are expected to be associated with positive or negative outcomes.

Second, we also assess the impact of situation-specific perceptions associated with predeployment psychological adaptation. By focusing on situation-specific perceptions that may act as precursors to adaptation, the findings of this research can be used to inform and modify predeployment training content and delivery that may avert later maladaptive responses. Indeed, a key future research challenge will be to determine the extent to which those perceptions most associated with psychological resiliency and positive adaptational outcomes can be modeled and incorporated into training packages. Third, this research also allows for the specification of individual difference variables that may affect long-term psychological resiliency, speaking to personnel selection in instances where training cannot ameliorate the negative effects of a deployment.

Fourth, although this research provides an important baseline in longitudinal program of research concerning the short and longer-term adaptation of military personnel, it also elucidates and allows for the testing of important factors thought to operate within each phase of a mission. For instance, data obtained from the predeployment questionnaire itself examined the relation of individual differences and situation specific perceptions, prior stressors and social support on soldiers' readiness to deploy. Thus, there are immediate as well as long-term benefits relevant to important aspects of soldiers' quality of life that are possible from continuing to conduct this program of research.

Finally, this research represents one of the first studies to detail the experience of CF augmentees to peace support operations, a group of soldiers who have traditionally been very difficult to track and thus have received very little attention. In addition, this research addresses issues related to the health, well-being and quality of life of CF augmentees.

In summary then, the results of this research are extremely encouraging. The majority of our hypotheses were supported. Our future research efforts will be directed toward tests of the effects of these predeployment variables on deployment and post-deployment psychological adaptation of CF augmentees to peace support missions. Moreover, we will expand our research program to include additional groups of military personnel, who have also tended to be less prominent in the research literature, but who nonetheless face significant operational challenges. Indeed, we have just begun a new project similarly exploring the psychological adaptation of CF personnel who deploy as United Nations military observers.

Table 1: Demographics for Predeployment Sample (N=532)

VARIABLE	VARIABLE RANGE OR VARIABLE GROUP	N OR FREQUENCY	MEAN (SD) OR PERCENT
Rank	Pte/AB	6	1.1
	Cpl/LS	147	27.6
	MCpl/MS	101	19.0
	Sgt/PO2	74	13.9
	WO/PO1	26	4.9
	MWO/CPO2	25	4.7
	CWO/CPO1	10	1.9
	Lt/SLt	4	.8
	Capt/Lt(N)	85	16.0
	Maj/LCdr	36	6.8
	LCol/Cdr	12	2.3
	Col/Capt(N)	4	.8
Gender	Male	425	79.9
	Female	105	19.7
Regular/Reserve Force	Regular	439	82.5
	Reserve	92	17.3
Elemental Command	Navy	47	8.8
	Army	321	60.3
	Air	163	30.6
Years of service	1-36	530	16.76 (7.41)
Previous Peacekeeping Experience	Yes	268	50.4
	No	254	47.7
Number of prior peacekeeping operations	1-6	259	1.80 (1.01)

Table 1 (cont'd.): Demographics for Predeployment Sample (N=532)

VARIABLE	VARIABLE RANGE OR VARIABLE GROUP	N OR FREQUENCY	MEAN (SD) OR PERCENT
Age	18-55	529	37.27 (7.24)
Marital Status	Single	114	21.4
	Married/Common Law	364	68.4
	Separated	23	4.3
	Divorced	26	4.9
	Widowed	3	.6
Have Children	No	197	37.0
	Yes	333	62.6
Number of children	1-6	339	2.01 (.95)
Education	less than high school diploma	41	7.7
	high school diploma	234	44.0
	trade/apprenticeship program	52	9.8
	college/CEGEP diploma	67	12.6
	undergraduate degree	98	18.4
	graduate degree	39	7.3

Table 2: *Reliability Analysis for the Psychological Hardiness Measure (N = 518)*

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
1.	Most of my life-gets spent doing things that are worthwhile	.397	.771
2.	Planning ahead can help avoid most future problems	.326	.779
3.	I don't like to make changes in my everyday schedule	.106	.802
4.	Changes in routine are interesting to me	.388	.773
5.	By working hard, you can always achieve your goals	.505	.759
6.	I really look forward to my work	.509	.758
7.	If I'm working on a difficult task I know when to seek help	.427	.768
8.	Trying your best at work really pays off in the end	.514	.758
9.	I know that I can overcome whatever difficulties I am faced with	.552	.756
10.	Most days I enjoy the challenges that life puts my way	.642	.747
11.	When I make plans I'm certain I can make them work	.501	.761
Cronbach's alpha = .784			

Table 3: *Reliability Analysis for the Dispositional Optimism Measure (N = 512)*

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
1.	In uncertain times, I usually expect the best	.402	.779
2.	If something can go wrong for me, it will	.581	.745
3.	I'm always optimistic about my future	.502	.761
4.	I hardly ever expect things to go my way	.682	.725
5.	I don't get upset easily	.272	.806
6.	I rarely count on good things happening to me	.577	.746
7.	Overall, I expect more good things to happen to me than bad	.607	.742
Cronbach's alpha = .786			

Table 4: *Reliability Analysis for the Extroversion Measure (N = 512)*

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
1.	I see myself as someone who is talkative	.606	.822
2.	I see myself as someone who is reserved	.625	.819
3.	I see myself as someone who is full of energy	.431	.841
4.	I see myself as someone who generates a lot of enthusiasm	.547	.830
5.	I see myself as someone who tends to be quiet	.698	.809
6.	I see myself as someone who has an assertive personality	.500	.834
7.	I see myself as someone who is sometimes shy, inhibited	.570	.827
8.	I see myself as someone who is outgoing, sociable	.654	.816
Cronbach's alpha = .844			

***Table 5**: Reliability Analysis for the Neuroticism Measure (N = 519)*

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
1.	I see myself as someone who depressed. blue	.454	.777
2.	I see myself as someone who is relaxed, handles stress well.	.610	.753
3.	I see myself as someone who is can be tense	.585	.755
4.	I see myself as someone who worries a lot	.566	.759
5.	I see myself as someone who is emotionally stable	.401	.784
6.	I see myself as someone who can be moody	.460	.778
7.	I see myself as someone who remains calm in tense situations	.403	.784
8.	I see myself as someone who gets nervous easily	.539	.763
Cronbach's alpha = .79			

Table 6: Reliability Analysis for Overall Predeployment Expectations Measure (N = 518)

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
When on deployment, to what extent do you believe that you will be able to successfully:			
1.	Cope with the day to day issues and problems created by your job?	.604	.812
2.	Get along with your co-workers?	.554	.820
3.	Get along with your commanding officer?	.564	.817
4.	Cope with any threats to your personal safety?	.639	.806
5.	Cope with other stresses (e.g. seeing others hurt, seeing widespread destruction)?	.594	.813
6.	Cope with the environmental conditions (e.g. camp conditions, weather, etc)?	.638	.806
7.	Cope with any family problems that arise?	.531	.825
Cronbach's alpha = .836			

Table 7: *Reliability Analysis for Deployment Specific Concerns Measure (N = 475)*

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
Thinking about your deployment, how concerned are you about the following:			
1.	What your role will be while on deployment (e.g. no time for a handover, different job than in Canada).	.550	.869
2.	Leadership concerns while on deployment (e.g. getting along with superiors).	.571	.868
3.	Policies and regulations in your unit about leave.	.568	.868
4.	Policies and regulations in your unit about alcohol consumption.	.426	.875
5.	Time spent away from your family due to service.	.486	.873
6.	The impact of deployment on your relationship with your family.	.521	.871
7.	Lack of privacy while on deployment.	.594	.866
8.	Mental or physical fatigue while on deployment.	.622	.866
9.	Harsh environmental conditions while on deployment (e.g. heat, cold, dust, noise).	.549	.869
10.	Double standards while on deployment (e.g. supply of equipment or rations, applying rules, receiving privileges).	.575	.867
11.	Standard of living conditions on deployment (e.g. food, sleeping quarters).	.668	.862
12.	Lack of recreation opportunities while on deployment.	.622	.865
13.	Risk of contracting a serious disease while on deployment.	.515	.871
Cronbach's alpha = .877			

Table 8: Reliability Analysis for the Total Signs Measure (N = 501)

	Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
	Please indicate how often you have experienced each of these over the last two months:		
1.	Common cold or flu	.243	.893
2.	Dizziness or faintness	.344	.891
3.	General aches or pains	.405	.891
4.	Sweating hands, feeling wet and clammy	.265	.892
5.	Headaches	.404	.891
6.	Muscle twitching or trembling	.412	.890
7.	Nervousness or tenseness	.562	.887
8.	Rapid heartbeat (when not exercising)	.446	.890
9.	Shortness of breath (when not exercising)	.276	.892
10.	Skin rashes or itching	.246	.893
11.	Upset stomach	.496	.889
12.	Trouble sleeping	.551	.888
13.	Feeling down or blue or depressed	.612	.887
14.	Difficulty concentrating	.596	.887
15.	Crying	.423	.890
16.	Changes in appetite	.571	.887
17.	Unintended changed in weight	.416	.890
18.	Taking medication to sleep or calm down	.362	.891
19.	Overly tired/lack of energy	.582	.887
20.	Loss of interest in previously enjoyed things such as t.v. news and friends	.538	.888
21.	Feeling life is pointless	.310	.892
22.	Feeling bored	.400	.891
23.	Minor accidents	.316	.892
24.	Beginning, increasing or resuming smoking	.085	.895
25.	Thoughts of ending your life	.089	.893
26.	Wanting to be alone	.432	.890
27.	Mental confusion	.428	.891
28.	Being jumpy / easily startled	.388	.891
29.	Being cranky / easily annoyed	.492	.889
30.	Bad dreams / nightmares	.364	.891
31.	Difficulty relating to others	.422	.890
32.	Loss of self-confidence	.540	.888
33.	Difficulty making decisions	.457	.890
34.	Feeling anxious or worried	.516	.888
35.	Pains in the heart or chest	.312	.892
36.	Feeling trapped or confined	.412	.891
37.	Increased or unusual arguments with loved ones	.356	.891
	Cronbach's alpha = .893		

Table 9: *Reliability Analysis for Commitment to Role of Peacekeeper Measure (N = 521)*

	ITEM	CORRECTED ITEM-TOTAL CORRELATION	CRONBACH'S ALPHA IF ITEM DELETED
1.	I would be happy to continue accepting peacekeeping tours for the duration of my military career.	.579	.721
2.	One of the major reasons I am going on a peacekeeping mission is that I believe the work is important.	.626	.710
3.	One of the major reasons I am going on a peacekeeping mission is that I feel a sense of moral obligation.	.457	.762
4.	The role of peacekeeper has a great deal of meaning to me.	.551	.734
5.	Despite the discomforts (e.g. uncomfortable living conditions, being away form home), I intend to volunteer for future peacekeeping tours.	.553	.731
Cronbach's alpha = .773			

Table 10: Reliability Analysis of Organizational Commitment to the CF Measure (N = 514)

	Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1.	I would be happy to spend the rest of my career in the Canadian Forces.	.378	.897
2.	It would be hard for me to leave the military right now, even if I wanted to.	.123	.903
3.	I really feel as if the Canadian Forces problems are my own.	.212	.900
4.	Too much in my life would be disrupted if I decided that I wanted to leave the military right now.	.086	.904
5.	Right now, staying in the military is a matter of necessity as much as desire.	.177	.901
6.	If I got an offer for a better job elsewhere I would not feel that it was right to leave the military.	.215	.900
7.	I feel that I have too few options to consider leaving the military.	.224	.900
8.	I was taught to believe in the value of remaining loyal to the military.	.240	.899
9.	The Canadian Forces has a great deal of meaning to me.	.521	.894
10.	I do not feel a strong sense of belonging to the Canadian Forces.	.500	.894
11.	I do not think that spending my entire career in the military is sensible anymore.	.469	.895
12.	The CF values my contribution to its performance.	.655	.891
13.	If the CF could hire someone to replace me at a lower salary it would do so.	.455	.895
14.	The CF fails to appreciate any extra effort from me.	.675	.891
15.	The CF strongly considers my goals and values.	.633	.892
16.	The CF would ignore any complaint from me.	.603	.892

Table 10(cont'd.): *Reliability Analysis of Organizational Commitment to the CF Measure*

	Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
17.	The CF disregards my best interests when it makes decisions that affect me.	.643	.891
18.	Help is available from within the CF when I have a problem.	.498	.895
19.	The CF really cares about my well-being.	.703	.891
20.	Even if I did the best possible job, the CF would fail to notice.	627	.892
21.	The CF is willing to help when I need a special favour.	.485	.895
22.	The CF cares about my general work satisfaction.	.639	.892
23.	If given the opportunity the CF would take advantage of me.	.532	.893
24.	The CF shows very little concern for me.	.748	.890
25.	The CF cares about my opinions.	.666	.892
26.	The CF takes pride in my accomplishments at work.	.662	.892
27.	The CF tries to make my job as interesting as possible.	.591	.893
28.	In order to succeed in the CF people have to put their personal/family life second.	.475	.895
29.	The CF gives out a message that people should not allow their personal/family responsibilities to interfere with work.	.444	.895
	Cronbach's alpha = .898		

Table 11: Descriptive Statistics for Individual Difference, Situational Appraisal, Prior Stressors, Social Support and Operational Readiness Measures for the Full Sample

Measure	N	Minimum	Maximum	Mean	Std. Deviation
1. Hardiness	521	1.45	4.00	2.98	.40
2. Dispositional Optimism	520	1.71	5.00	3.64	.57
3. Extroversion	524	1.38	5.00	3.35	.66
4. Neuroticism	524	1.00	4.00	2.34	.55
5. Predeployment Expectations	528	2.33	5.00	4.17	.50
6. Deployment Specific Concerns	528	1.00	3.77	1.91	.56
7. Prior Military Stressors	525	.00	2.38	.45	.43
8. Level of Social Support	532	.00	5.00	3.76	.47
9. Psychological & Physical Symptoms	521	.00	1.86	.33	.28
10. Commitment to Peacekeeping Role	526	1.00	5.00	3.72	.73
11. Commitment to the CF	527	1.48	4.76	3.17	.52

Table 12: Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors, and Social Support by Gender

Measure	Gender	N	Mean	Std. Deviation	*F* (df)	*p*
1. Hardiness	Male	418	2.9598	.39718	3.382 (1,518)	ns
	Female	102	3.0401	.38772		
2. Optimism	Male	417	3.6528	.54370	1.583[1] (1,136)	ns
	Female	102	3.5637	.66266		
3. Neuroticism	Male	420	2.3088	.54106	7.877 (1,521)	ns
	Female	103	2.4778	.57339		
4. Extroversion	Male	420	3.3448	.62413	7.051 (1,521)	ns
	Female	103	3.5442	.71343		
5. Predeployment Expectations	Male	423	4.2167	.48780	18.316 (1,524)	.000
	Female	103	3.9861	.50111		
6. Deployment Specific Concerns	Male	423	1.8951	.56161	1.619 (1,524)	ns
	Female	103	1.9731	.54059		
7. Prior Military Stressors	Male	420	.4971	.43649	41.667[1] (1,192)	.000
	Female	103	.2393	.34284		
8. Level of Social Support	Male	425	3.63	1.60	.32[1] (1,178)	ns
	Female	105	3.72	1.37		
9. Psychological & Physical Symtoms	Male	418	3.7498	.48804	.329[1] (1,191.462)	ns
	Female	102	3.7757	.39313		
10. Commitment to Peacekeeping Role	Male	421	3.7166	.74659	.001 (1,522)	ns
	Female	103	3.7189	.66218		
11. Commitment to CF	Male	422	3.1802	.51606	.498 (1,523)	ns
	Female	103	3.1398	.54020		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 13: *Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors, and Social Support by Marital Status (Single, Married, and Other (Separated, Divorced, Widowed))*

Measure	Marital Status	N	Mean	Std. Deviation	*F* (df)	*p*
1. Hardiness	Single	108	2.9674	.41311	.080 (2,516)	ns
	Married	360	2.9790	.40045		
	Other	51	2.9590	.33393		
2. Optimism	Single	108	3.5201	.57515	3.372 (2,515)	ns
	Married	359	3.6780	.55139		
	Other	51	3.5994	.63504		
3. Neuroticism	Single	109	2.4309	.54727	1.995 (2,519)	ns
	Married	361	2.3119	.53909		
	Other	52	2.3606	.62508		
4. Extroversion	Single	109	3.3268	.69827	.797 (2,519)	ns
	Married	361	3.4066	.62907		
	Other	52	3.3483	.66704		
5. Predeployment Expectations	Single	111	4.1466	.48474	.390 (2,523)	ns
	Married	363	4.1869	.49887		
	Other	52	4.1429	.52698		
6. Deployment Specific Concerns	Single	111	1.9014	.56485	1.002 (2,523)	ns
	Married	363	1.9235	.57059		
	Other	52	1.8069	.44172		
7. Prior Military Stressors	Single	110	.3955	.41603	1.243 (2,520)	ns
	Married	361	.4537	.42546		
	Other	52	.5017	.50164		
8. Level of Social Support	Single	114	3.6764	.35739	2.909[1] (2, 136.134)	ns
	Married	364	3.7756	.50723		
	Other	52	3.7778	.40453		
9. Psychological & Physical Symptoms	Single	108	.3253	.26227	.322 (2,516)	ns
	Married	360	.3234	.27608		
	Other	51	.3563	.29797		
10. Commitment To Peacekeeping Role	Single	110	3.9232	.60110	7.107[1] (2,128)	.001
	Married	362	3.6597	.75784		
	Other	52	3.7269	.69624		
11. Commitment to the CF	Single	110	3.1947	.53795	.155 (2,522)	ns
	Married	363	3.1736	.51382		
	Other	52	3.1470	.53205		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 14: *Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors, and Social Support by Rank Group*

MEASURE	RANK GROUP	N	MEAN	STD. DEVIATION	*F* (DF)	*P*
1. Hardiness	NCO	380	2.9838	.39393	.660 (1,518)	ns
	OFFICER	140	2.9519	.40325		
2. Optimism	NCO	380	3.6114	.56600	2.565 (1,517)	ns
	OFFICER	139	3.7016	.57514		
3. Neuroticism	NCO	382	2.3306	.54586	.471 (1, 521)	ns
	OFFICER	141	2.3679	.56473		
4. Extroversion	NCO	382	3.3646	.64499	2.037 (1,521)	ns
	OFFICER	141	3.4383	.65212		
5. Predeployment	NCO	385	4.1730	.51893	.000[1] (1,289)	ns
Expectations	OFFICER	141	4.1738	.44294		
6. Deployment	NCO	385	1.9228	.57317	.879 (1,524)	ns
Specific Concerns	OFFICER	141	1.8714	.51171		
7. Prior Military	NCO	383	.4525	.44896	.299[1] (1,289)	ns
Stressors	OFFICER	140	.4309	.38097		
8. Level of	NCO	389	3.77	1.54	1.78 (1, 528)	ns
Social Support	OFFICER	141	3.71	1.57		
9. Psychological &	NCO	380	.3406	.28116	2.402 (1,518)	ns
Physical Symptoms	OFFICER	140	.2981	.26641		
10. Commitment to	NCO	383	3.6743	.73828	4.927 (1,522)	ns
Peacekeeping Role	OFFICER	141	3.8333	.69700		
11. Commitment	NCO	384	3.1587	.52627	1.084 (1,523)	ns
to CF	OFFICER	141	3.2121	.50525		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 15: *Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors, and Social Support by Previous Peacekeeping Experience (Experienced versus Novice Peacekeepers)*

MEASURE	PREVIOUSE XPERIENCE	N	MEAN	STD. DEVIATION	*F* (DF)	*P*
1. Hardiness	No/Novice	247	2.9740	.37425	.074 (1,509)	ns
	Yes/Exp'ced	264	2.9835	.41449		
2. Optimism	No/Novice	246	3.6257	.57416	.149 (1,508)	ns
	Yes/Exp'ced	264	3.6453	.56998		
3. Neuroticism	No/Novice	248	2.3898	.53728	3.556 (1,512)	ns
	Yes/Exp'ced	266	2.2979	.56556		
4. Extroversion	No/Novice	248	3.3742	.66842	.184 (1,512)	ns
	Yes/Exp'ced	266	3.3988	.63141		
5. Predeployment	No/Novice	251	4.0668	.49405	22.584 (1,516)	.000
Expectations	Yes/Exp'ced	267	4.2710	.48393		
6. Deployment	No/Novice	251	1.9511	.55380	2.771 (1,516)	ns
Specific Concerns	Yes/Exp'ced	267	1.8696	.55967		
7. Prior Military	No/Novice	249	.3021	.34973	56.899[1] (1,494)	.000
Stressors	Yes/Exp'ced	267	.5722	.45949		
8. Level of	No/Novice	254	3.7782	.45060	.864 (1,20)	ns
Social Support	Yes/Exp'ced	268	3.4000	.48552		
9. Psychological &	No/Novice	247	.3300	.28080	.040 (1,509)	ns
Physical Symptoms	Yes/Exp'ced	264	.3251	.27066		
10. Commitment to	No/Novice	249	3.7155	.66646	.117[1] (1,511)	ns
Peacekeeping Role	Yes/Exp'ced	267	3.7371	.76974		
11. Commitment	No/Novice	250	3.2107	.49755	2.495 (1,515)	ns
to CF	Yes/Exp'ced	267	3.1386	.53763		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 16: *Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors and Social Support by Regular Force and Reserve Force Status*

MEASURE	FORCE	N	MEAN	STD. DEVIATION	*F* (DF)	*P*
t	regular	432	2.9577	.39931	5.668 (1,518)	ns
	reserve	88	3.0674	.36587		
2. Optimism	regular	431	3.6172	.56476	2.350 (1,517)	ns
	reserve	88	3.7192	.58780		
3. Neuroticism	regular	434	2.3501	.54445	.642 (1,521)	ns
	reserve	89	2.2988	.58415		
4. Extroversion	regular	434	3.3778	.66124	.131 (1,521)	ns
	reserve	89	3.4196	.57623		
5. Predeployment	regular	436	4.1629	.50905	.861 (1,525)	ns
Expectations	reserve	91	4.2162	.44937		
6. Deployment Specific	regular	436	1.9244	.56134	2.075 (1,525)	ns
Concerns	reserve	91	1.8318	.53869		
7. Prior Military	regular	434	.4619	.44197	3.722 (1,522)	ns
Stressors	reserve	90	.3656	.37122		
8. Level of	regular	439	3.7378	.48453	3.400 (1, 529)	ns
Social Support	reserve	92	3.8370	.38576		
9. Psychological &	regular	432	.3408	.28615	7.315[1] (1,150)	ns
Physical Symptoms	reserve	88	.2662	.22449		
10. Commitment to	regular	435	3.6729	.76121	17.374[1] (1,180)	.0001
Peacekeeping Role	reserve	90	3.9450	.51353		
11. Commitment	regular	436	3.1288	.52187	18.631 (1,524)	.0001
to CF	reserve	90	3.3844	.45715		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 17: *Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors, and Social Support by Elemental Command*

MEASURE	ELEMENTAL COMMAND	N	MEAN	STD. DEVIATION	*F* (DF)	*P*
1. Hardiness	Navy	47	2.9691	.41238	1.146 (2,517)	ns
	Army	311	2.9957	.37987		
	Air	162	2.9377	.42149		
2. Optimism	Navy	46	3.6118	.55342	.060 (2,516)	ns
	Army	311	3.6354	.57406		
	Air	162	3.6445	.56630		
3. Extroversion	Navy	47	3.4787	.68528	1.552 (2,520)	ns
	Army	315	3.3540	.62140		
	Air	161	3.4256	.67774		
4. Neuroticism	Navy	47	2.2891	.48719	.532 (2,520)	ns
	Army	315	2.3610	.55144		
	Air	161	2.3199	.56938		
5. Predeployment Expectations	Navy	47	4.1261	.50797	2.479 (2,524)	ns
	Army	317	4.2115	.47632		
	Air	163	4.1096	.53455		
6. Deployment Specific Concerns	Navy	47	2.0325	.54613	1.662 (2,524)	ns
	Army	317	1.8801	.56400		
	Air	163	1.9267	.54695		
7. Prior Military Stressors	Navy	47	.4042	.35539	3.082 (2,521)	ns
	Army	314	.4833	.43465		
	Air	163	.3843	.44057		
8. Level of Social Support	Navy	47	3.7092	.50364	.379 (2,528)	ns
	Army	321	3.7515	.46014		
	Air	163	3.7751	.48132		
9. Psychological & Physical Symptoms	Navy	47	.3311	.35726	.003 (2,517)	ns
	Army	311	.3292	.26366		
	Air	162	.3278	.28040		
10. Commitment to Peacekeeping Role	Navy	47	3.7319	.85595	.977 (2,522)	ns
	Army	316	3.7549	.69362		
	Air	162	3.6568	.75279		
11. Commitment to the CF	Navy	47	3.0490	.52363	1.611[1] (2,122)	ns
	Army	316	3.1950	.49182		
	Air	163	3.1738	.56513		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 18: *Mean Differences in Individual Differences, Situational Appraisals, Prior Stressors, and Social Support by Deployment Mission Area*

MEASURE	MISSION AREA	N	MEAN	STD. DEVIATION	*F* (DF)	*P*
1. Hardiness	Former Yugoslavia	203	2.9875	.41729	.587 (1, 494)	ns
	Middle East	293	2.9600	.37320		
2. Optimism	Former Yugoslavia	202	3.6397	.62733	.083[1] (1, 385)	ns
	Middle East	294	3.6241	.53395		
3. Neuroticism	Former Yugoslavia	203	2.3707	.55962	.546 (1, 497)	ns
	Middle East	296	2.3334	.55071		
4. Extroversion	Former Yugoslavia	203	3.3832	.64864	1.345 (1, 497)	ns
	Middle East	296	3.3134	.66881		
5. Predeployment Expectations	Former Yugoslavia	205	4.1400	.49982	1.226 (1, 500)	ns
	Middle East	297	4.1899	.49369		
6. Deployment Specific Concerns	Former Yugoslavia	205	1.9406	.56277	1.853 (1, 500)	ns
	Middle East	297	1.8727	.54000		
7. Prior Military Stressors	Former Yugoslavia	203	.4344	.42378	.176 (1, 497)	ns
	Middle East	296	.4508	.43353		
8. Level of Social Support	Former Yugoslavia	208	3.7575	.51050	.025 (1, 503)	ns
	Middle East	297	3.7643	.46290		
9. Psychological & Physical Symptoms	Former Yugoslavia	203	.3191	.27442	.617 (1, 494)	ns
	Middle East	293	.3311	.28638		
10. Commitment to Peacekeeping Role	Former Yugoslavia	204	3.6853	.75049	.245 (1, 498)	ns
	Middle East	296	3.7186	.73028		
11. Commitment to CF	Former Yugoslavia	204	3.1883	.51090	.581 (1, 499)	ns
	Middle East	297	3.1523	.52456		

[1] *F* replaced with Welch's F statistic due to heterogeneity of variance of groups.

Table 19: *Correlations Among Individual Differences, Situational Appraisals, Social Support, Prior Stressors, and Indicators of Operational Readiness.*

SCALE	HARDINESS	OPTIMISM	EXTROVERSION	NEUROTICISM	EXPECTATIONS	CONCERNS	PRIOR STRESSORS	SOCIAL SUPPORT	SIGNS	PEACEKEEPING COMMITMENT	CF COMMITMENT
1. Hardiness	-										
2. Optimism	.476**	-									
3. Extroversion	.364**	.253**	-								
4. Neuroticism	-.356**	-.508**	-.320**	-							
5. Predeployment Expectations	.369**	.344**	.289**	-.422**	-						
6. Deployment Specific Concerns	-.138	-.202**	-.094	.291**	-.405**	-					
7. Overall Prior Military & Civilian Stressors	.075	-.022	.076	-.133	.178	-.043	-				
8. Level of Social Support	.145	.126	.089	-.124	.157	-.074	-.042	-			
9. Signs Scale	-.211**	-.378**	-.165	.426**	-.208**	.310**	.097	-.082	-		
10. Commitment to Peacekeeping Role	.341**	.144	.237**	-.125	.249**	-.165	.082	.140	-.125	-	
11. Organizational Commitment to the CF	.431**	.385**	.173	-.199**	.264**	-.322**	-.019	.241**	-.294**	.381**	-

** Correlation is significant at the 0.0001 level (2-tailed)

Table 20: *Hierarchical Regressions of Individual Differences, Situational Appraisals, Prior Stressors, and Social Support on Self-reported Psychological & Physical Symptoms (Signs Profile)*

STEP/VARIABLES	ADJUSTED R^2	BETA	*T*	*P*
Step 1	.217			
Extroversion		-.008	-0.181	ns
Neuroticism		.322	6.906	.0001
Hardiness		.015	0.33	ns
Optimism		-.224	-4.614	.0001
Step 2	.252			
Expectations		.069	1.489	ns
Concerns		.214	5.070	.0001
Step 3	.268			
Prior Stress		.141	3.637	.0001
Social Support		.008	.219	ns

Table 21: Hierarchical Regressions of Individual Differences, Situational Appraisals, Prior Stressors, and Social Support on Organizational Commitment to the Role of Peacekeeper

STEP/VARIABLES	ADJUSTED R2	BETA	T	P
Step 1	.124			
Extroversion		.129	2.836	.005
Neuroticism		.008	.154	ns
Hardiness		.313	6.352	.0001
Optimism		-.033	-.644	ns
Step 2	.149			
Expectations		.126	2.534	.012
Concerns		-.102	-2.257	.024
Step 3	.151			
Prior Stress		.039	.921	ns
Social Support		.068	1.636	ns

Table 22: Hierarchical Regressions of Individual Differences, Situational Appraisals, Prior Stressors, and Social Support on Organizational Commitment to the Canadian Forces

STEP/VARIABLES	ADJUSTED R^2	BETA	*T*	*P*
Step 1	.220			
Extroversion		.006	0.140	ns
Neuroticism		.047	1.005	ns
Hardiness		.319	6.867	.0001
Optimism		.256	5.294	.0001
Step 2	.289			
Expectations		.014	0.314	ns
Concerns		-.258	-6.238	.0001
Step 3	.315			
Prior Stress		-.028	-0.750	ns
Social Support		.159	4.236	.0001

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References

1. Achat, A., Kawachi, I., Spiro, A., DeMolles, D. A., & Sparrow, D. (2000). Optimism and depression as predictors of physical and mental health functioning: The normative aging study. *Annals of Behavioral Medicine*, 22, 127-130.

2. Adler, A. B., Litz, B. T., & Bartone, P. T. (2003). The nature of peacekeeping stressors. In T. W. Britt & A. B Adler, (Eds.), *The psychology of the peacekeeper: Lessons from the field* (pp. 149 –167). Westport, CT: Praeger.

3. Adler, A. B., Vaitkus, M. A., & Martin, J. A. (1996). "Combat exposure and posttraumatic stress symptomatology among U.S. soldiers deployed to the Gulf War." *Military Psychology*, 8(1), 1-14.

4. Affleck, G., Tennen, H., & Apter, A. (2001). Optimism, pessimism, and daily life with chronic illness. In E. C. Chang (Ed), *Optimism and pessimism: Implications for theory, research, and practice*, pp. 147-168. Washington, DC: American Psychological Association.

5. Aldwin, C.M., Levenson, M.R., & Spiro, A. III (1994). Vulnerability and resilience to combat exposure: Can stress have lifelong effects? *Psychology and Aging*, 9, 34-44.

6. Allen, N. J. (2003). Organizational Commitment in the Military: A Discussion of Theory and Practice. *Military Psychology*, 15, 237-253.

7. Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior*, 49, 252-276.

8. Aspinwall, L. G., Richter, L., & Hoffman, R. R. (2001). Understanding how optimism works: An examination of optimists adaptive moderation of belief and behavior. In E. C. Chang (Ed.), *Optimism and pessimism: Implications for theory, research, and practice*, pp. 217-238. Washington, DC: American Psychological Association.

9. Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology*, 63, 989-1003.

10. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.

11. Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.

12. Bartone, P. T. (1999). Hardiness protects against war-related stress in Army Reserve Forces. *Consulting Psychology: Practice and Research*, 5, 72-82.

13. Bartone, P. T., Adler, A. B., & Vaitkus, M. A. (1998). Dimensions of psychological stress in peacekeeping operations. *Military Medicine*, 163, 587-593.

14. Bartone, P. T., Ursano, R. J., Wright, K. M., Ingraham, L. H. (1989). The impact of a military air disaster on the health of assistance workers: A prospective study. *Journal of Nervous & Mental Disease*, 177(6), 317-328.

15. Berkman, L. F. (1985). The relationship of social networks and social support to morbidity and mortality. In S. Cohen & L. S. Syme (Eds.), *Social support and health*, pp. 241-262. San Diego, CA: Academic Press, Inc.

16. Berkman, L. F., & Syme, S. L. (1994). Social networks, host resistance, and mortality: A nine year follow-up study of Alameda County residents. In A. E. Steptoe & J. Wardle (Eds.), *Psychosocial processes and health: A reader*, pp. 43-67. New York, NY: Cambridge University Press.

17. Bliese, P. D., & Britt, T. W. (2001). Social support, group consensus and stressor-strain relationships: Social context matters. *Journal of Organizational Behavior*, 22, 425-436.

18. Bolton, E. E., Litz, B., T., Britt, T. W., Adler, A., & Roemer, L. (2001). Reports of prior exposure to potentially traumatic events and PTSD in troops poised for deployment. *Journal of Traumatic Stress*, 14, 249-255.

19. Brailey,K., Vasterling, J. J., & Sutker, P. B. (1998). Psychological aftermath of participation in the Gulf War. In A. Lundberg (Ed.), *The environment and mental health: A guide for clinicians*, pp. 83-101. Mahwah, NJ: Lawrence Erlbaum Associates.

20. Brickman, P. (1987). *Commitment, conflict, and caring*. Englewood Cliffs, NJ: Prentice-Hall.

21. Brissette, I., Scheier, M. F., & Carver, C. S. (2002). The role of optimism in social network development, coping, and psychological adjustment during a life transition. *Journal of Personality & Social Psychology*, 82(1), 102-111.

22. Britt, T. W., Adler, A. B., & Bartone, P. T. (2001). Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology*, 6, 53-63.

23. Catanzaro, S. J., & Mearns, J. (1999). Mood-related expectancy, emotional experience, and coping behavior. In I. Kirsch (Ed.), *How expectancies shape experience*, pp. 67-91. Washington, DC: American Psychological Association.

24. Capstick, M. D. (2000). Command and leadership in other people's wars. In C. McCann & R. A. Pigeau (Eds.), *The Human in Command: Exploring the Modern Military Experience*, pp. 83-91. New York: Academic/Plenum Publishers.

25. Centers for Disease Control. (1987). Postservice mortality among Vietnam veterans. *Journal of the American Medical Association*, 257, 790-795.

26. Chang, E. C. (1998a). Does dispositional optimism moderate the relation between perceived stress and psychological well-being: A preliminary investigation. *Personality and Individual Differences*, 25, 233-240.

27. Chang, E. C. (1998b). Dispositional optimism and primary and secondary appraisal of a stressor: Controlling for confounding influences and relations to coping and psychological and physical discomfort. *Journal of Personality and Social Psychology*, 74, 1109-1120.

28. Cohen, F., Kearney, K. A., Zegans L., S., Kemeny, M. E., Neuhaus, J. H., & Stites, D. P. (1999). Differential immune system changes with acute and persistent stress for optimists and pessimists. *Brain, Behavior, & Immunity*, 13, 155-174.

29. Costa, P. T., & McCrae, R. R. (1987). Neuroticism, somatic compiaints, and disease: Is the bark worse than the bite? *Journal of Personality*, 55, 299-316.

30. Coyne, J. C. & DeLongis, A. (1986). Going beyond social support: The role of social relationships in adaptation. *Journal of Consulting & Clinical Psychology*, 54, 454-460.

31. Dallaire, R. A. (2000). Command experiences in Rwanda. In C. McCann & R. A. Pigeau (Eds.), *The Human in Command: Exploring the Modern Military Experience*, pp. 29-50. New York: Academic/Plenum Publishers.

32. Davis, J. R. (1997). *The sharp end: A Canadian soldier's story*. Vancouver: Douglas and MacIntyre.

33. DeLongis, A., Folkman, S., & Lazarus, R. S. (1988). The impact of daily stress on health and mood: Psychological and social resources as mediators. *Journal of Personality & Social Psychology*, 54, 486-495.

34. Derogitis, L. R., Lipman, R. S., Rickels, K., Uhlenhuth, E. H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. *Behavioral Science*, 19, 1-15.

35. Desivilya, H. S., & Gal, R. (1998). Cumulative effects of war experiences: The salutogenic dimension. *Megamot Special Issue: Salutogenesis and wellness: Origins or health and well-being*, 39, 56-79.

36. Dirkzwager, A. J. E., Bramsen, I., & van der Ploeg, H. M. (2003). Social support, coping, life events, and posttraumatic stress symptoms among former peacekeepers: A prospective study. *Personality & Individual Differences*, 34, 1545-1559.

37. Ebert, S. A., Tucker, D. C., & Roth, D. L. (2002). Psychological resistance factors predicting general health status and physical symptom reporting. *Psychology, Health, & Medicine*, 7, 363-375.

38. Ehlers, A. (1999). A cognitive approach to the understanding and treatment of posttraumatic stress disorder. In E. J. Hickling, & E. B. Blanchard, (Eds.), *The*

international handbook of road traffic accidents & psychological trauma: Current understanding, treatment and law, pp. 397-408. New York, NY: Elsevier Science.

39. Elder, G., & Clipp, E. (1989). Combat experience and emotional health: Impairment and resilience in later life. *Journal of Personality*, 57, 311-341.

40. Elron, E., Halevy, N., Ben Ari, E., & Shamir, B. (2003). Cooperation and coordination across cultures in the peacekeeping forces: Individual and organizational integrating mechanisms. In *The psychology of the peacekeeper: Lessons from the field,* pp.261-282. Westport, CT: Praeger Publishers/Greenwood Publishing.

41. Florian, V., Mikulincer, M., & Taubman, O. (1995). Does hardiness contribute to mental health during a stressful real-life situation? The roles of coping and appraisal. *Journal of Personality and Social Psychology*, 68, 687-695.

42. Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, 50, 571-579.

43. Fontana, A., & Rosenheck, R. (1994). Posttraumatic stress disorder among Vietnam theater veterans: A causal model of etiology in a community sample. *Journal of Nervous and Mental Disease*, 182, 677-684.

44. Fontana, A., & Rosenheck, R. (1999). A model of war zone stressors and posttraumatic stress disorder. *Journal of Traumatic Stress*, 12, 111-126.

45. Ford, J. D., Campbell, K. A., Storzbach, D., Binder, L. M., Anger, K. W., & Rohlman, D. S. (2001). Posttraumatic stress symptomology is associated with unexplained illness attributed to Persian Gulf War military service. *Psychosomatic Medicine*, 63, 842-849.

46. Gade, P. A., Tiggle, R. B., & Schumm, W. R. (2003). The Measurement and Consequences of Military Organizational Commitment in Soldiers and Spouses. *Military Psychology*, 15, 191-207.

47. Gallagher, D. J. (1996). Personality, coping, and objective outcomes: Extraversion, neuroticism, coping styles, and academic performance. *Personality and Individual Differences*, 21, 421-429.

48. Gentry, W. D., & Kobasa, S. C. (1984). Psychological resources mediating stress-illness relationships in humans. In W. D. Gentry (Ed.), *Handbook of behavioral medicine,* pp. 87-116. New York: Guilford Press.

49. Goodwin, R. D., & Stein, M. B. (2003). Peptic ulcer disease and neuroticism in the United States adult population. *Psychotherapy and Psychosomatics*, 72(1), 10-15.

50. Green, B., Grace, M., Lindy, J., & Gleser, G. (1990). Risk factors of PTSD and other diagnoses in a general sample of Vietnam veterans. *American Journal of Psychiatry*, 147, 729-733.

51. Griffith, J. (2002). Multilevel analysis of cohesion's relation to stress, well-being, identification, disintegration, and perceived combat readiness. *Military Psychology*, 14, 217-239.

52. Hayes, N., & Joseph, S. (2003). Big 5 correlates of three measures of subjective well-being. *Personality and Individual Differences*, 34, 723-727.

53. Hobfoll, S. E., & London, P. (1986). The relationship of self-concept and social support to emotional distress among women during war. *Journal of Social and Clinical Psychology*, 4, 189-203.

54. Holman, E. A., & Cohen-Silver, R. (1998). Getting "stuck" in the past: Temporal orientation, and coping with trauma. *Journal of Personality and Social Psychology, 4,* 1146-1163.

55. House, J. S., Landis, K. R., & Umberson, D. (2003). Social relationships and health. In P. Salovey & A. J. Rothman (Eds.), *Social psychology of health: Key readings in social psychology,* pp. 218-226. New York, NY: Psychology Press.

56. Hull, J. G., Van Treuren, R. R., & Propsom, P. M. (1988). Attributional style and the components of hardiness. *Personality and Social Psychology Bulletin*, 14, 505-513.

57. John, O. P. (1990). The "big five" factor taxonomy: Dimensions of personality in the natural language and in questionnaires. In L. A. Pervin (Ed.), *Handbook of Personality: Theory and research,* pp. 66-100. New York: Guilford Press.

58. John, O. P., & Srivastava, S. (1999). In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (2nd ed., pp. 102-138). New York, NY, US: Guilford Press.

59. Johnson, D. R., Lubin, H., Rosenheck, R., Fontana, A., Southwick, S., & Charney, D. (1997).

60. The impact of homecoming reception on the development of posttraumatic stress disorder: The West Haven Homecoming Stress Scale (WHHSS). *Journal of Traumatic Stress*, 10, 259-277.

61. Joseph, S. (1999) Attributional processes, coping and post-traumatic stress disorders. In W. Yule (Ed), *Post-traumatic stress disorders: Concepts and therapy,* pp. 51-70. Wiley series in clinical psychology. New York, NY: John Wiley & Sons Ltd.

62. Joseph, S., Williams, R., & Yule, W. (1993). Changes in outlook following disaster: The preliminary development of a to assess positive and negative responses. *Journal of Traumatic Stress*, 6, 271-279.

63. Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87, 530-541.

64. Karrasch, A. I. (2003). Antecedents and consequences of organizational commitment. *Military Psychology*, 15, 225-236.

65. Kassel, J. D., Jackson, S. I., & Unrod, M. (2000). Generalized expectancies for negative mood regulation and problem drinking among college students. *Journal of Studies on Alcohol*, 61, 332-340.

66. King, L. A., King, D. W., Fairbank, J. A., Keane, T. M., & Adams, G. A. (1998). Resilience-recovery factors in post-traumatic stress disorder among female and male Vietnam veterans: Hardiness, postwar social support, and additional stressful life events. *Journal of Personality and Social Psychology*, 74, 420-434.

67. King, D. W., King, L. A., Foy, D. W., Keane, T. M., & Fairbank, J. A. (1999). Posttraumatic stress disorder in a national sample of female and male Vietnam veterans: Risk factors, war-zone stressors, and resiliency-recovery variables. *Journal of Abnormal Psychology*, 108, 164-170.

68. Kling, K. C., Ryff, C. D., & Love, G. (2003). Exploring the Influence of Personality on Depressive Symptoms and Self-Esteem Across a Significant Life Transition. *Journal of Personality and Social Psychology*, 85, 922-932.

69. Kobasa, S. C. (1979a). Personality and resistance to illness. *Journal of Community Psychology*, 7, 413-423.

70. Kobasa, S. C. (1979b). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology*, 37, 1-11.

71. Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology*, 42, 168-177.

72. Labbate, L. A., Cardena, E., Dimitreva, J., Roy, M., & Engel, C. C. (1998). Psychiatric syndromes in Persian Gulf War veterans: An association of handling dead bodies with somatoform disorders. *Psychotherapy and Psychosomatics*, 67, 275-279.

73. Lamerson, C.D., & Kelloway, E.K. (1996). Towards a model of peacekeeping stress: Traumatic and contextual influences. *Canadian Psychology*, 37, 195-204.

74. Lazarus, R. S., & DeLongis, A. (1983). Psychological stress and coping in aging. *American Psychologist*, 38, 245-254.

75. Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

76. Leiter, M. P., Clark, D., & Durup, J. (1994). Distinct models of burnout among men and women in the military. *Journal of Applied Behavioral Science*, 30, 63-82.

77. Levinger, G. (1983). Development and change. In H. H. Kelley, G. Levinger, E. Berschied, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & R. Peterson (Eds.), *Close Relationships*, pp. 315-359.. New York: Freeman.

78. Litt, M. D., Tennen, H., Affleck, G., & Klock, S. (1992). Coping and cognitive factors in adaptation to in vitro fertilization failure. *Journal of Behavioral Medicine,* 15(2), 171-187.

79. Litz, B. T., Orsillo, S. M., Friedman, M., Ehlich, P., & Batres, A. (1997). Posttraumatic stress disorder associated with peacekeeping duty in Somalia for U.S. military personnel. *American Journal of Psychiatry,* 154, 178 – 184.

80. MacDonald, C., Chamberlain, K., Long, N., & Mirfin, K. (1999). Stress and mental health status associated with peacekeeping duty for New Zealand defence force personnel. *Stress Medicine*, 15, 235-241.

81. MacKenzie, L. (1993). *Peacekeeper: The road to Sarajevo*. Vancouver: Douglas & McIntyre.

82. Martin, T. N., & O'Laughlin, M. S. (1984). Predictors of organizational commitment: The study of part-time army reservists. *Journal of Vocational Behavior*, 25, 270-283.

83. Martin, L., Rosen, L. N., Durand, D. B., Knudson, K. H., & Stretch, R. H. (2000). Psychological and physical health effects of sexual assaults and nonsexual traumas among male and female United States Army soldiers. *Behavioral Medicine*, 26, 23-33.

84. Martin-Krumm, C. P., Sarrazin, P. G., Peterson, C., & Famose, J. P. (2003). Explanatory style and resilience after sports failure. *Personality and Individual Differences*, 35, 1685-1695.

85. Manning, M. R., Williams, R. F., & Wolfe, D. M. (1988). Hardiness and the relationship between stressors and outcomes. *Work and Stress*, 2, 205-216.

86. McCarroll, J. E., Ursano, R. J., Fullerton, C. S., Liu, X., & Lundy, A. (2001). Effects of exposure to death in a war mortuary on posttraumatic stress disorder symptoms of intrusion and avoidance. *Journal of Nervous and Mental Disease*, 189, 44-48.

87. McCrae, Robert R., & Costa, P. T. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality*, 54, 385-405

88. McCrae, R. R., & Costa, P. T. (1989). The structure of interpersonal traits: Wiggins's circumplex and the five-factor model. *Journal of Personality and Social Psychology*, 56, 586-595.

89. Mehlum, L., & Weisaeth, L. (2002). Predictors of posttraumatic stress reactions in Norwegian U. N. peacekeepers seven years after service. *Journal of Traumatic Stress*, 15, 17-26.

90. Mikulincer, M., & Florian, V. (1995). Appraisal of and coping with a real-life stressful situation: The contribution of attachment styles. *Personality and Social Psychology Bulletin*, 21, 406-414.

91. Moldjord, C., Fossum, L. K., & Holen, A. (2003). Coping with peacekeeping stress. In T, Britt & A. B. Adler (Eds.), *The psychology of the peacekeeper: Lessons from the field,* pp. 169-184. Westport, CT: Praeger Publishers/Greenwood Publishing.

92. Murphy, P. J., & Farley, K. M. J. (2000). Morale, cohesion, and confidence in leadership: unit climate dimensions for Canadian soldiers on operations. In C. McCann & R. Pigeau (Eds.), *The human in command: Exploring the modern military experience,* pp. 311-332. New York: Kluwer Academic/Plenum Publishers.

93. Orsillo, S. M., Roemer, L., Litz, B. T., Ehlich, P., & Friedman, M. J. (1998). Psychiatric symptomatology associated with contemporary peacekeeping: An examination of post-mission functioning among peacekeepers in Somalia. *Journal of Traumatic Stress*, 11, 611-625.

94. Pedhazur, E. J. & Pedhazur Schmelkin, L. (1991). *Measurement, design, and analysis: An integrated approach.* Hillsdale, NJ: Lawrence Erlbaum Associates.

95. Perrewe, P. L., & Carlson, D. S. (2002). Do men and women benefit from social support equally? Results from a field examination within the work and family context. In D. L. Nelson & R. J. Burke (Eds.), *Gender, work stress, and health,* pp. 101-114. Washington, D. C.: American Psychological Association.

96. Riolli, L., Savicki, V., & Cepani, A. (2002). Resilience in the face of catastrophe: Optimism, personality and coping in the Kosovo crisis. *Journal of Applied Social Psychology*, 32, 1604-1627.

97. Rolland, J., & De Fruyt, F. (2003). The validity of FFM personality dimensions and maladaptive traits to predict negative affects at work: A six month prospective study in a military sample. *European Journal of Personality: Special Issue: Personality and industrial, work and organizational applications*, 17, S101-S121.

98. Rosen, L. N., & Martin, L. (1996). Childhood antecedents of psychological adaptation to military life, *Military Medicine*, 161, 665-668.

99. Ruiz, M. A., Pincus, A. L., & Dickinson, K. A. (2003). NEO PI-R predictors of alcohol use and alcohol-related problems. *Journal of Personality Assessment*, 81, 226-236.

100. Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvement. *Journal of Personality and Social Psychology*, 45, 101-117.

100. Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219-247.

101. Scheier, M. F., & Carver, C. S. (1987). Dispositional optimism and physical well-being: The influence of generalized outcome expectancies on health. *Journal of Personality Special Issue: Personality and Physical Health, 55,* 169-210.

102. Scheier, M. F., Carver, C. S, & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed); *Optimism and pessimism: Implications for theory, research, and practice*, pp. 189-216. Washington, DC: US: American Psychological Association.

103. Scheier, M. F., Matthews, K. A., Owens, J. F., Magovern, G. J., Lefebvre, R. C., Abbott, R. A., & Carver, C. S. (2003). Dispositional optimism and recovery from coronary artery bypass surgery: The beneficial effects on physical and psychological well-being. In P. Salovey & A. J. Rothman (Eds.), *Social Psychology of health: Key readings in social psychology*, pp. 342-361. New York, NY: Psychology Press.

104. Shamir, B., Brainin, E., Zakay, E., & Popper, M. (2000). Perceived combat readiness as collective efficacy: Individual- and group-level analysis. *Military Psychology*, 12, 105-119.

105. Soeters, J., & Bos-Bakx, M. (2003). Cross-cultural issues in peacekeeping operations. In Britt, T. W. & Adler, A. B. (Eds), *The psychology of the peacekeeper: Lessons from the field,* pp.283-298. Westport, CT: Praeger Publishers/Greenwood Publishing.

106. Solomon, Z., Mikulincer, M., & Avitzur, E. (1988). Coping, locus of control, social support, and combat-related posttraumatic stress disorder: A prospective study. *Journal of Personality and Social Psychology*, 55, 279-285.

107. Solomon, Z., Margalit, C., Waysman, M. & Bleich, A. (1991). In the shadow of the Gulf War: Psychological distress, social support and coping among Israeli soldiers in a high risk area. *Israeli Journal of Medical Science*, 27, 687-695.

108. Solomon, Z. & Mikulincer, M. (1987). Combat stress reactions, post traumatic stress disorder and somatic complaints among Israeli soldiers. *Journal of Psychosomatic Research,* 31(1), 131-137.

109. Solomon, Z., & Mikulincer, M. (1990). Life events and combat-related posttraumatic stress disorder: The intervening role of locus of control and social support. *Military Psychology,* 2(4), 241-256.

110. Solomon, Z., Mikulincer, M., & Waysman, M. (1991). Delayed and immediate onset posttraumatic stress disorder: The role of life events and social resources. *Journal of Community Psychology*, 19, 213-236.

111. Solomon, Z., Oppenheimer, B., Elizur, Y., & Waysman, M. (1990). Can successful coping in a second war heal combat-related PTSD from the past? *Journal of Anxiety Disorders*, 4, 141-145.

112. Spiro, A., Schnurr, P. P., & Aldwin, C. M. (1994). Combat-related posttraumatic stress disorder in older men. *Psychology and Aging*, 9, 17-26.

113. SPSS on-line manual (2004). http://www.spss.com/.

114. Steiner, M., & Neumann, M. (1978). Traumatic neurosis and social support in Yom Kippur war returnees. *Military Medicine*, 143, 866-868.

115. Taylor, S. E. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist*, 38(11), 1161-1173.

116. Taylor, S.E. (1991). *Health Psychology*. New York: McGraw-Hill Inc.

117. Taylor, S. E., & Aspinwall, L. G. (1996). Mediating and moderating processes in psychological stress: Appraisal, coping, resistance, and vulnerability. In H. B. Kaplan (Ed.), *Psychological stress: Perspectives on structure, theory, life-course, and methods*, pp.71-110. San Diego, CA: Academic Press.

118. Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193-210.

119. Thompson, M. M., & Gignac, M. A. M. (2001). A model of psychological adaptation in peace support operations: An overview. DRDC Technical Report TR 2001-050, DRDC Toronto.

120. Thompson M. M., & Gignac, M. A. M. (2002). Adaptation to peace support operations: The experience of Canadian Forces Augmentees. In P. Essens, A. Vogelaar, E. Tanercan, & D. Winslow (Eds.), *The human in command: Peace support operations*, pp. 235-263. Amsterdam: Mets & Schilt/KMA.

121. Weathers, F. W., Litz, B. T., & Keane, T. M. (1995). Military trauma. In J. R. Freedy & S. E. Hobfoll (Ed), *Traumatic stress: From theory to practice*, pp. 103-128. New York, NY: Plenum Press.

122. Wright, K. M., Huffman, A. H., & Adler, A. B. (2002). Psychological screening program overview. *Military Medicine*, 167, 853-861.

123. Wrosch, C., & Scheier, M. F. (2003). Personality and quality of life: The importance of optimism and goal adjustment. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation*, 12, 59-72.

124. Wynd, C. A., & Ryan-Wenger, N. A. (1998). The health and physical readiness of army reservists: A current review of the literature and significant research questions. *Military Medicine*, 163, 283-287.

Annex A

Take a moment to read this page carefully. Please feel free to take this copy of the general information sheet and contact addresses with you.

PEACE SUPPORT OPERATIONS SURVEY-GENERAL INFORMATION SHEET

This study is part of an ongoing research program to look at the effects of peacekeeping duties on Canadian Forces personnel. We are coordinating this research effort with other researchers both nationally and internationally. We have also briefed the Daily Executive Meeting at NDHQ about this work, emphasizing its applications to training and policy development. We are collecting this data in order to provide all levels of the Canadian Forces with information about the impact that peace support operations have upon CF personnel and their families. We are here at the PSTC to ensure that the experiences of augmentees and reservists, groups that have been traditionally overlooked, are clearly represented when future policy is formulated. In order to do this research we need to hear from you. We realize that filling out a questionnaire like this is time consuming and hat you have other demands on your time, but this is a unique opportunity to make a difference. We appreciate your input.

This questionnaire is divided into different sections. We begin by asking you some basic biographical information. We then ask a variety of questions specifically concerning peace support operations and your attitudes about the military in general. We finish up by asking you to tell us a bit more about yourself, such as how you prefer to make decisions, how you would describe yourself, and how you see the world in general.

Occasionally some of the questions may seem to be repeated. The reason for this is that, in addition to our own questions, we also include items developed by other researchers interested in similar issues. We include their questions in order to compare our findings with their prior results. In other cases, some questions may seem similar but have a different emphasis (e.g., asking how you think versus feel about something). Although a question may seem similar to one that you have already seen we ask that you complete each question.

There are no right or wrong answers to these questions. People may have differing views and we are interested in what your experiences are. Your answers are entirely confidential and your participation is completely voluntary. Your questionnaire will have a unique identification number and the data will be kept in Toronto. Only authorized researchers will have access to the data and only group results will be presented. Although the PSTC has given us permission to collect information here, we are a separate group, conducting research with the Command Group at the Defence and Civil Institute of Environmental Medicine in Toronto. You may end your participation at any time, and are free to skip any question that you do not wish to answer.

We appreciate your willingness to complete the survey. We ask you to be as honest as possible so that our data accurately reflects your experience and the things that are important to you.

If you have any questions concerning this study please do not hesitate to contact Dr. Megan Thompson at 416-635-2040 or via email at megan.thompson@dciem.dnd.ca

We also wish to make you aware of the CF resources available to assist people concerning issues related to their peacekeeping experiences. Individuals should contact their family doctors, or their local Operational Trauma and Stress Centre (contact information listed below) for further information or referrals.

HALIFAX CLINIC
Formation Health Services
Building WL7 Suite 216
P.O. Box 99000 Stn Forces
Halifax, NS B3K 5X5
(902) 427-0550 ext 1851 CSN 447-1815

CLINIQUE VALCARITES
Bldg 109 P.O. 1000 Stn Forces
Courcellette, QC G0A 4Z0
(418) 844-5000 ext 7373 CSN 666-7373

OTTAWA CLINIC
National Defense Medical Centre
3rd Floor Specialist Clinic
1745 Alta Vista Drive
Ottawa, ON K1A 0K6
(613) 945-8062 ext 6644 CSN 849-8062 ext 6644

EDMONTON CLINIC
Building 201 2nd Floor
P.O. Box 10500 Stn Forces
Edmonton, AB T5T 4J5
(780) 973-4011 ext 5332 CSN 528-5332

ESQUIMALT CLINIC
Social Work Section
Formation Health Services
P.O. Box 17000 Stn Forces
Victoria, BC V9A 7N2
(250) 363-4411

Serving members who have a medical problem they feel is related to an operational deployment and whose medical diagnosis is not yet clear, can request a referral to a Postdeployment Health Clinic (located on the same bases as the Operational Stress Centre) by contacting your local medical facilities.

Once again, thank you for all of your help.

Sincerely,

Dr. M. M. Thompson
Research Psychologist
Command Group
Defence and Civil Institute of
Environmental Medicine

Dr. M. A. M. Gignac
Special Research Consultant
Command Group
Defence and Civil Institute of
Environmental Medicine

PEACE SUPPORT OPERATIONS SURVEY-CONSENT FORM

DCIEM Human Ethics Committee Protocol Number (L-257)

Principal Investigator: Dr. Megan M. Thompson
Co-Investigator: Dr. Monique A.M. Gignac
Research Assistant: Laura Smith

The DCIEM Human Research Ethics Committee requires all research participants to sign a consent form. This form and all identifying personal information will be kept separate from your questionnaire data.

I, _____
(name), volunteer to complete the predeployment survey. I have read the accompanying information page, have had an opportunity to ask questions concerning the survey and have had my questions answered to my satisfaction.

I understand that the survey asks a variety of questions concerning my biographical details, questions concerning what I expect with respect to my upcoming deployment, and questions about my general attitudes about the military. I understand that other questions also ask me to describe myself, how I prefer to make decisions and how I see the world in general. I understand that the survey takes approximately 40-60 minutes to complete.

I understand that my data will be stored at DCIEM in Toronto and that my answers will be treated as confidential ('Protected B' IAW CF Security Requirements). Thus, my data will not be revealed to anyone other than authorized study investigators without my consent except as part of group results. I understand that information that may be used to identify me specifically (e.g., my name and service number) will not appear with my data.

I understand that as a result of completing this survey I may experience minor eyestrain and boredom. I consider these acceptable.

I understand that I may withdraw from the study at any time without prejudice, and that I may skip any questions that I would prefer not to answer.

Name: _____

Signature: _____

Date: _____

Witness' Name: _____

Witness' Signature: _____

Date: _____

SECTION 1: BIOGRAPHICAL INFORMATION

For office use only

Shade circles like this: ●

Not like this: ⊗

I.D.

1. What is your present rank?

O **Pte/AB**
O **Cpl/LS**
O **MCpl/MS**
O **Sgt/PO2**
O **WO/PO1**
O **MWO/CPO2**
O **CWO/CPO1**
O **2Lt/ASLt**
O **Lt/SLt**
O **Capt/Lt(N)**
O **Maj/LCdr**
O **LCol/Cdr**
O **Col/Capt(N)**

2. How old are you? ☐☐

3. What is your gender? O Male O Female

4. What is your current marital status? O Single O Married / Common Law O Separated O Divorced O Widowed

5. Do you have children? O No O Yes

6. Are you a Regular or Reserve ☐☐ member? O Regular O Reserve

7. What is your elemental command? O Navy O Army O Air

8. What is your occupation? ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

9. How many years of service time do you have? (Please round to closest year)? ☐☐

10. What is your highest level of education completed? (please select only one)

O Less than high school diploma
O High school diploma
O Trade/apprenticeship program
O College/CEGEP diploma
O Undergraduate degree
O Graduate degree

11. Do you have previous peacekeeping experience?

O No (If no, please go to question 13)
O Yes, how many missions? _____

Location of Mission

Year Of Mission

12. How long (in months) has it been since your last peacekeeping deployment?

13. How many weeks prior to your anticipated deployment date did you receive official notice of your tasking? (round to the nearest week)

16. To which peace support mission area will you be deploying?

SECTION 2: WHAT YOU THINK ABOUT YOUR UPCOMING DEPLOYMENT

When on deployment, to what extent do you believe that you will be able to successfully:

		Not at all		Somewhat Successfully		Very
a.	Cope with the day-to-day issues and problems created by your job?	O 1	O 2	O 3	O 4	O 5
b.	Get along with your co-workers?	O 1	O 2	O 3	O 4	O 5
c.	Get along with your commanding officer?	O 1	O 2	O 3	O 4	O 5
d.	Cope with any threats to your personal safety?	O 1	O 2	O 3	O 4	O 5
e.	Cope with other stresses (e.g., seeing other hurt, seeing widespread destruction)?	O 1	O 2	O 3	O 4	O 5
f.	Cope with the environmental conditions (e.g., camp conditions, weather, etc.)?	O 1	O 2	O 3	O 4	O 5
g.	Cope with any family problems that arise?	O 1	O 2	O 3	O 4	O 5

Thinking about your deployment, how concerned are you about the following:

		Not at all	A little	Somewhat	Extremely
a.	What your work role will be while on deployment (e.g., no time for a handover, different job than in Canada).	O1	O 2	O 3	O 4
b.	Leadership concerns while on deployment (e.g., getting along with superiors).	O1	O 2	O 3	O 4
c.	Policies and regulations in your unit about leave.	O1	O 2	O 3	O 4
d.	Policies and regulations in your unit about alcohol consumption.	O1	O 2	O 3	O 4
e.	Time spent away from your family due to service.	O1	O 2	O 3	O 4
f.	The impact of deployment on your relationship with your family.	O1	O 2	O 3	O 4
g.	Lack of privacy while on deployment.	O1	O 2	O 3	O 4
h.	Mental or physical fatigue while on deployment.	O1	O 2	O 3	O 4

		Not at all	A little	Somewhat	Extremely
i.	Harsh environment conditions while on deployment.	O1	O 2	O 3	O 4
j.	Double standards while on deployment (e.g., supply of equipment or rations, applying rules, receiving privileges).	O1	O 2	O 3	O 4
k.	Standard of living conditions on deployment (e.g., food, sleeping quarters).	O1	O 2	O 3	O 4
l.	Lack of recreation opportunities while on deployment.	O1	O 2	O 3	O 4
m.	Risk of contracting a serious disease while on deployment.	O1	O 2	O 3	O 4

SECTION 3: YOUR PAST EXPERIENCES

CF personal encounter a wide range of experiences during training and while on deployment. We are interested in hearing about specific experiences that you have had. Please indicate the number of times you have experienced any of these *tragic or life-threatening incidents*.

		Never	Once	2-3 times	4 or more Times
a.	Armed combat.	O1	O 2	O 3	O 4
b.	Being under direct fire (e.g. sniper).	O1	O 2	O 3	O 4
c.	Being under indirect fire (e.g. shelling).	O1	O 2	O 3	O 4
d.	You harming a person.	O1	O 2	O 3	O 4
e.	Seeing abusive violence.	O1	O 2	O 3	O 4
f.	Seeing a colleague die.	O1	O 2	O 3	O 4
g.	Seeing multiple deaths	O1	O 2	O 3	O 4
h.	Seeing a person die.	O1	O 2	O 3	O 4
i.	Handling bodies or body parts.	O1	O 2	O 3	O 4
		Never	Once	2-3 times	4 or more Times
j.	Seeing serious injuries occur or treated.	O1	O 2	O 3	O 4
k.	Seeing widespread destruction.	O1	O 2	O 3	O 4
l.	Seeing widespread suffering.	O1	O 2	O 3	O 4
m.	Being threatened with death.	O1	O 2	O 3	O 4
n.	Being held hostage/captive.	O1	O 2	O 3	O 4
o.	Being physically assaulted.	O1	O 2	O 3	O 4

		Never	Once	2-3 times	4 or more Times
p.	Being threatened with assault.	O1	O 2	O 3	O 4
q.	Being seriously injured.	O1	O 2	O 3	O 4
r.	Dangerous training conditions/incidents.	O1	O 2	O 3	O 4
s.	Dangerous traffic incidents/road conditions.	O1	O 2	O 3	O 4
t.	Assisting in a disaster (e.g., flood, plane crash).	O1	O 2	O 3	O 4

SECTION 4: FAMILY & FRIENDS

We are interested in whether or not you have discussed the details of your upcoming deployment with others. Please follow the instructions and arrows below in order to complete the table.

Have you discussed the details of your deployment with:	SUPPORT SOUGHT? If you answer yes, proceed right and answer level and importance questions, then continue to the next support source.		LEVEL OF SUPPORT RECEIVED 1- Very Unsupportive 2- Mostly Unsupportive 3- Mostly Supportive 4- Very Supportive
Your Mother	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Your Father	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Your Spouse/Partner	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Your Brother/Sisters	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Your Children	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Other Family Members	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Your Closest Friends	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Work Colleagues deploying with you	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Work Colleagues not deploying with you	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4
Family Resource Centre	O N/A O no ⇓	O yes ⇒	O 1 O 2 O 3 O 4

SECTION 5: YOUR ATTITUDES

We are interested in your attitudes about the military and about being a peacekeeper. Please indicate the extent to which you agree or disagree with each of the statements listed below.

		Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
a.	I would be happy to spend the rest of my career in the Canadian Forces.	O 1	O 2	O 3	O 4	O 5
b.	I would be happy to continue to accept peacekeeping tours for the duration of my military career.	O 1	O 2	O 3	O 4	O 5
c.	It would be hard for me to leave the military right now, even if I wanted to.	O 1	O 2	O 3	O 4	O 5
d.	I really feel as if the Canadian Forces problems are my own.	O 1	O 2	O 3	O 4	O 5
e.	Too much in my life would be disrupted if I decided that I wanted to leave the military right now.	O 1	O 2	O 3	O 4	O 5
f.	One of the major reasons I am going on this peacekeeping mission is that I believe the work is important.	O 1	O 2	O 3	O 4	O 5
g.	One of the major reasons I am going on this peacekeeping mission is that I feel a sense of moral obligation.	O 1	O 2	O 3	O 4	O 5
h.	Right now, staying in the military is a matter of necessity as much as desire.	O 1	O 2	O 3	O 4	O 5
i.	If I got an offer for a better job elsewhere I would not feel that it was right to leave the military.	O 1	O 2	O 3	O 4	O 5
j.	I feel that I have too few options to consider leaving the military.	O 1	O 2	O 3	O 4	O 5
k.	I was taught to believe in the value of remaining loyal to the military.	O 1	O 2	O 3	O 4	O 5
l.	The Canadian Forces has a great deal of meaning to me.	O 1	O 2	O 3	O 4	O 5
m.	The role of peacekeeper has a great deal of meaning to me.	O 1	O 2	O 3	O 4	O 5
n.	I do not feel a strong sense of belonging to the Canadian Forces.	O 1	O 2	O 3	O 4	O 5
o.	I do not think that spending my entire career in the military is sensible anymore.	O 1	O 2	O 3	O 4	O 5

Please continue to tell us about your attitudes about the military and about being a peacekeeper by indicating the extent to which you agree or disagree with each of the statements listed below.

		Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
p.	Despite the discomforts (e.g., uncomfortable living conditions, being away from home) I intend to volunteer for future peacekeeping missions.	O 1	O 2	O 3	O 4	O 5
q.	The CF values my contribution to its performance.	O 1	O 2	O 3	O 4	O 5
r.	If the CF could hire someone to replace me at a lower salary it would do so.	O 1	O 2	O 3	O 4	O 5
s.	The CF fails to appreciate any extra effort from me.	O 1	O 2	O 3	O 4	O 5
t.	The CF strongly considers my goals and values.	O 1	O 2	O 3	O 4	O 5
u.	The CF would ignore any complaint from me.	O 1	O 2	O 3	O 4	O 5
v.	The CF disregards my best interests when it makes decisions that affect me.	O 1	O 2	O 3	O 4	O 5

Thank you for all the help you have provided so far. In this final section of the questionnaire we are interested in how you typically think about life and the way you describe yourself.

Please indicate your level of agreement with each of the following statements:

		Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
a.	In uncertain times, I usually expect the best.	O1	O 2	O 3	O 4	O 5
b.	If something can go wrong for me, it will.	O1	O 2	O 3	O 4	O 5
c.	I'm always optimistic about my future.	O1	O 2	O 3	O 4	O 5
d.	I hardly ever expect things to go my way.	O1	O 2	O 3	O 4	O 5
e.	I don't get upset easily.	O1	O 2	O 3	O 4	O 5
f.	I rarely count on good things happening to me.	O1	O 2	O 3	O 4	O 5
g.	Overall, I expect more good things to happen me than bad.	O1	O 2	O 3	O 4	O 5

Below are statements about life that people often feel differently about. Please indicate how much you think each one is true by using the following response scale.

		Not at all true	A little true	Quite true	Completely true
a.	Most of my life gets spent doing thing that are worthwhile.	O 1	O 2	O 3	O 4
b.	Planning ahead can help avoid most future problems.	O 1	O 2	O 3	O 4
c.	I don't like to make changes in my everyday schedule.	O 1	O 2	O 3	O 4
d.	Changes in routine are interesting to me.	O 1	O 2	O 3	O 4
e.	By working hard, you can always achieve your goals.	O 1	O 2	O 3	O 4
f.	I really look forward to my work.	O 1	O 2	O 3	O 4
g.	If I am working on a difficult task I know when to seek help.	O 1	O 2	O 3	O 4
h.	Trying your best at work really pays off in the end.	O 1	O 2	O 3	O 4
i.	I know that I can overcome whatever difficulties I am faced with.	O 1	O 2	O 3	O 4
j.	Most days I enjoy the challenges that life puts my way.	O 1	O 2	O 3	O 4
k.	When I make plans I'm certain I can make them work.	O 1	O 2	O 3	O 4

Here are a number of characteristics that may or may not apply to you. Please indicate your level of agreement with each statement.

I SEE MYSELF AS SOMEONE WHO...	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
a. Is talkative.	O1	O 2	O 3	O 4	O 5
b. Is reserved.	O1	O 2	O 3	O 4	O 5
c. Is full of energy.	O1	O 2	O 3	O 4	O 5
d. Generates a lot of enthusiasm.	O1	O 2	O 3	O 4	O 5
e. Tends to be quiet.	O1	O 2	O 3	O 4	O 5
f. Has an assertive personality.	O1	O 2	O 3	O 4	O 5
g. Is sometimes shy, inhibited.	O1	O 2	O 3	O 4	O 5
h. Is outgoing, sociable.	O1	O 2	O 3	O 4	O 5

I SEE MYSELF AS SOMEONE WHO...	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Is depressed, blue	O1	O 2	O 3	O 4	O 5
2. Is relaxed, handles stress well	O1	O 2	O 3	O 4	O 5
3. Can be tense	O1	O 2	O 3	O 4	O 5
4. Worries a lot	O1	O 2	O 3	O 4	O 5
5. Is emotionally stable	O1	O 2	O 3	O 4	O 5
6. Can be moody	O1	O 2	O 3	O 4	O 5
7. Remains calm in tense situations	O1	O 2	O 3	O 4	O 5
8. Gets nervous easily	O1	O 2	O 3	O 4	O 5

Here is a list of health troubles or complaints people sometimes have. Using the given scale, please indicate how often you have experienced each of these over the last two months.

		Never	Once	Often	Very Often
a.	Common cold or flu	O1	O 2	O 3	O 4
b.	Dizziness or faintness	O1	O 2	O 3	O 4
c.	General aches and pains	O1	O 2	O 3	O 4
d.	Sweating hands, feeling wet and clammy	O1	O 2	O 3	O 4
e.	Headaches	O1	O 2	O 3	O 4
f.	Muscle twitching or trembling	O1	O 2	O 3	O 4
g.	Nervousness or tenseness	O1	O 2	O 3	O 4
h.	Rapid heartbeat (when not exercising)	O1	O 2	O 3	O 4
i.	Shortness of breath (when not exercising	O1	O 2	O 3	O 4
j.	Skin rashes or itching	O1	O 2	O 3	O 4
k.	Upset stomach	O1	O 2	O 3	O 4
l.	Trouble sleeping	O1	O 2	O 3	O 4
m.	Feeling down or blue or depressed	O1	O 2	O 3	O 4
n.	Difficulty concentrating	O1	O 2	O 3	O 4
o.	Crying	O1	O 2	O 3	O 4
p.	Changes in appetite	O1	O 2	O 3	O 4
q.	Unintended changes in weight	O1	O 2	O 3	O 4
r.	Taking medication to sleep or calm down	O1	O 2	O 3	O 4
s.	Overly tired/lack of energy	O1	O 2	O 3	O 4
t.	Loss of interest in previously enjoyed things such as tv, news, and friends	O1	O 2	O 3	O 4
u.	Feeling life is pointless	O1	O 2	O 3	O 4
v.	Feeling bored	O1	O 2	O 3	O 4
w.	Minor accidents	O1	O 2	O 3	O 4
x.	Beginning, increasing or resuming smoking	O1	O 2	O 3	O 4
y.	Thoughts of ending your life	O1	O 2	O 3	O 4
z.	Wanting to be alone	O1	O 2	O 3	O 4
aa.	Mental confusion	O1	O 2	O 3	O 4
bb.	Being jumpy / easily startled	O1	O 2	O 3	O 4
cc.	Being cranky / easily annoyed	O1	O 2	O 3	O 4

Please continue to indicate how often you have experienced each of these over the last two months

		Never	Once	Often	Very Often
dd.	Bad dreams / nightmares	O1	O 2	O 3	O 4
ee.	Difficulty relating to others	O1	O 2	O 3	O 4
ff.	Loss of self-confidence	O1	O 2	O 3	O 4
gg.	Difficulty making decisions	O1	O 2	O 3	O 4
hh.	Feeling anxious or worried	O1	O 2	O 3	O 4
ii.	Pains in the heart or chest	O1	O 2	O 3	O 4
jj.	Feeling trapped or confined	O1	O 2	O 3	O 4
kk.	Increased or unusual arguments with loved ones	O1	O 2	O 3	O 4

THANK YOU VERY MUCH FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE!

If you have any comments or suggestions for issues that we should look at but have not been included in this survey, please indicate them below.

IN ORDER TO HAVE THE BEST QUALITY OF INFORMATION POSSIBLE, WE NEED PEOPLE LIKE YOU WHO WOULD BE WILLING TO COMPLETE A SIMILAR QUESTIONNAIRE WHILE ON DEPLOYMENT. THIS INFORMATION WILL ALLOW US TO LEARN ABOUT YOUR ONGOING EXPERIENCES WHILE DEPLOYED AND WILL HELP US TO DOCUMENT THE IMPACT OF PEACE SUPPORT OPERATIONS ON CF PERSONNEL. WE HOPE THAT YOU WILL HELP US BY PARTICIPATING. IF YOU ARE WILLING TO PARTICIPATE, PLEASE FILL OUT AS MUCH OF THE INFORMATION ON THE CONTACT INFORMATION CARD AS YOU KNOW AT THIS POINT IN TIME. NOTE THAT INDICATING YOUR NAME DOES NOT COMMIT YOU TO COMPLETING FUTURE SURVEYS, ONLY THAT YOU ARE WILLING TO BE CONTACTED FOR FUTURE SURVEYS. YOU ARE, OF COURSE, FREE TO DECLINE TO PARTICIPATE AT ANY POINT IN TIME.

Name: _____ (please print)

Address: _____

_____

_____

_____

We are interested in any further comments you may wish to make about your peacekeeping experiences. Please feel free to use the space below for your comments.

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To return this survey:

Please make sure to sign and date your consent form.
Seal your completed survey and your contact information card in the envelope, and Return the survey to the DCIEM representative.

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14. ABSTRACT

(U) This research investigates the influence of individual differences in personality, positive and negative situational appraisals concerning an upcoming deployment, prior military stressors, and social support on self-reported symptoms, commitment to the role of peacekeeper, and commitment to the CF, three variables assumed to be indices of operational readiness. This study also represents the first phase of a program of longitudinal research, designed to assess the effects of predeployment factors and deployment events on deployment and post-deployment psychological adaptation.532 Canadian Forces personnel training as augmentees for a peace support mission participated in this research. One-way ANOVAs showed that mean levels tended to be consistent across demographic groups. Hierarchical regressions were used to assess applicability of social cognitive theories of adaptation to the realm of operational readiness for peace support operations. Specifically, we tested the primacy of individual differences in personality and situational appraisals, and which variables within these groups were uniquely associated with each indicator of operational readiness, after controlling for the effects of prior stressors and social support. Results confirmed the importance of individual differences and situational appraisals in that both consistently predicted each of the three indicators of operational readiness. Social support and prior stressors were less consistent predictors of operational readiness to deploy. These results are discussed in terms of the unique contributions of this research to a more complete understanding of factors affecting psychological adaptation across the deployment cycle.

(U) Cette recherche porte sur l'influence des différences individuelles au niveau de la personnalité, les évaluations positives et négatives associées au déploiement imminent, les facteurs de stress antérieurs ainsi que les effets du soutien social sur les symptômes autodéclarés, l'engagement à l'égard du rôle des casques bleus et l'engagement à l'égard des Forces canadiennes, trois variables censées être des indicateurs de la capacité opérationnelle. Cette étude constitue également la première phase d'un programme de recherche longitudinale, conçu pour évaluer les effets des facteurs de prédéploiement et des activités de déploiement sur l'adaptation psychologique pendant le déploiement et après le déploiement. Cinq cent trente?deux membres des Forces canadiennes destinés à faire partie du renfort pour une mission de paix ont pris part à la recherche. Une analyse de variance simple a révélé que les niveaux moyens avaient tendance à être uniformes selon les groupes démographiques. Des analyses de régression hiérarchique ont été utilisées pour évaluer l'applicabilité des théories socio?cognitives de l'adaptation au domaine de la capacité opérationnelle dans le contexte des missions de paix. En particulier, nous avons vérifié l'influence des différences individuelles sur le plan de la personnalité et de l'évaluation des situations, et déterminé quelles variables dans ces groupes étaient exclusivement associées à chacun des indicateurs de la capacité opérationnelle, après avoir pris en compte les effets des facteurs de stress antérieurs et du soutien social. Les résultats ont confirmé l'importance des perceptions individuelles en ce sens que les différences individuelles et l'évaluation des situations permettaient systématiquement de prévoir chacun des trois indicateurs de la capacité opérationnelle. En revanche, le soutien social et les facteurs de stress antérieurs étaient des prédicteurs moins uniformes de la capacité opérationnelle. Ces résultats sont analysés en tenant compte de l'utilité particulière que revêt cette recherche pour une meilleure compréhension des facteurs qui influent sur l'adaptation psychologique aux différentes phases du cycle de déploiement.

15. KEYWORDS, DESCRIPTORS or IDENTIFIERS

(U) Psychological Adaptation; CF Augmentees; Personality; Situational Appraisals; Social Support; Prior Stressors; Operational Readiness